

Exhibit B

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

**ANYWHERECOMMERCE, Inc. and
BBPOS LIMITED,**

Plaintiffs,

v.

**INGENICO, INC., INGENICO CORP.,
INGENICO GROUP, SA, and INGENICO
VENTURES SAS,**

Defendants.

Civil Docket No: 1:19-cv-11457-IT

REBUTTAL EXPERT REPORT OF MICHAEL SHAMOS, PH.D., J.D.

CONFIDENTIAL

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I. INTRODUCTION AND QUALIFICATIONS

1. I have been retained by counsel for Defendants Ingenico, Inc., Ingenico Corp. and Ingenico Group, SA (“Ingenico”¹) to provide technical analysis and opinions in this case. I refer herein to Plaintiffs AnywhereCommerce, Inc. and BBPOS Limited as “Plaintiffs.”

2. I currently hold the title of Distinguished Career Professor in the School of Computer Science at Carnegie Mellon University in Pittsburgh, Pennsylvania. I am a member of two departments in that School, the Institute for Software Research and the Language Technologies Institute. I was a founder and Co-Director of the Institute for eCommerce at Carnegie Mellon from 1998-2004 and from 2004-2018 was Director of the eBusiness Technology graduate program in the Carnegie Mellon University School of Computer Science. Since 2018, I have been Director of the M.S. in Artificial Intelligence and Innovation degree program at Carnegie Mellon. My Curriculum Vitae is attached as Exhibit A to this declaration.

3. I have an A.B. degree from Princeton University in Physics, an M.A. degree from Vassar College in Physics, an M.S. degree from American University in Technology of Management, an M.S. degree from Yale University in Computer Science, an M. Phil. from Yale University in Computer Science, a Ph.D. from Yale University in Computer Science, and a J.D. degree from Duquesne University.

4. I have taught graduate courses at Carnegie Mellon in Electronic Commerce, including eCommerce Technology, Electronic Payment Systems, Electronic Voting, Internet of Things, Electronic Payment Systems and eCommerce Law and Regulation, as well as Analysis of Algorithms. Since 2007, I have taught an annual course in Law of Computer Technology. I currently also teach Artificial Intelligence and Future Markets. From 2001-2021, I was a

¹ My engagement letter does not mention Defendant Ingenico Ventures SAS. However, the term “Ingenico” as used herein, includes Ingenico Ventures SAS.

Visiting Professor at the University of Hong Kong, where I taught an annual course in Electronic Payment Systems.

5. I am also the Director of Carnegie Mellon's graduate degree program in eBusiness Technology and a faculty member in the Privacy Engineering degree program at Carnegie Mellon. My course on Law of Computer Technology is required for all students in that program.

6. From 1979-1987, I was the founder and president of two computer software development companies in Pittsburgh, Pennsylvania, Unilogic, Ltd. and Lexeme Corporation.

7. I am an attorney admitted to practice in Pennsylvania and have been admitted to the Bar of the U.S. Patent and Trademark Office since 1981. I have been asked to render opinions in this declaration as a technical expert. I have not been asked to offer any opinions on the law in this case.

8. I am the author and lecturer in a 24-hour video course on Internet protocols and have taught computer networking, wireless communication and Internet architecture since 1999.

9. I am a named co-inventor on the following six issued patents relating to electronic commerce: U.S. Patent Nos. 7,330,839, 7,421,278, 7,747,465, 8,195,197, 8,280,773 and 9,456,299.

10. I have previously served as an expert in over 320 cases concerning computer technology. In particular, I have been involved in multiple cases involving electronic payment devices.

II. MATERIALS CONSIDERED

11. I have been asked to address the assertions in the "Expert Report of Ivan Zatkovich" dated February 16, 2022 ("Zatkovich Report"). In connection with this report, I have considered the materials referenced in the Zatkovich Report and those listed in Exhibit B.

12. I have also relied on my education, skill, training, and experience in the electronic payment space.

13. I reserve the right to supplement my opinions as expressed in this report to address any new information obtained in the course of this proceeding, or based on any new positions taken by Plaintiffs.

14. When I say I “understand” a fact to be true or make a factual statement without a documentary citation, that means I have been informed by counsel for Ingenico that Ingenico will provide proof at trial of such fact through admitted evidence. When I say that I “understand” a particular principle of law to be applicable, that means I have been informed by counsel for Ingenico that I am to apply such principle of law.

15. In this report, all emphasis has been added unless otherwise noted.

III. COMPENSATION

16. I am being compensated at the rate of \$600/hour. My compensation is in no way dependent on the outcome of this proceeding and my compensation in no way affects the substance of my statements and opinions in this report. I will be reimbursed for out-of-pocket expenses incurred in connection with this matter.

17. I have no financial interest in Plaintiffs. It is conceivable that I may own mutual funds or investment accounts which themselves own shares of Defendant Ingenico Group SA. I have no knowledge of any such ownership, which in any case would not constitute a material portion of my net worth.

IV. SUMMARY OF MY OPINIONS

18. Mr. Zatkovich has not shown that any of the alleged trade secrets were actually trade secrets. In fact, they were not.

19. Mr. Zatkovich has not shown that any of the alleged trade secrets was not readily ascertainable by proper means. In fact, they were.

20. Mr. Zatkovich has not shown that any disclosure of the alleged trade secrets to parties in privity with Defendants was made under obligation of confidence, except for eight documents bearing confidentiality markings but that did not contain trade secrets.

21. Mr. Zatkovich has not shown that any disclosure of the alleged trade secrets to parties in privity with Defendants contained any indication that any such disclosure was confidential.

22. Mr. Zatkovich has not shown that any of the alleged trade secrets has been misappropriated by any Defendant.

23. Mr. Zatkovich has adduced evidence that the claims against Defendants were not brought within any applicable statute of limitations period.

V. LEGAL PRINCIPLES

24. Counsel for Defendants has informed me of the legal principles that apply in this case, as expressed below.

25. Plaintiffs have made claims under the Georgia Trade Secrets Act, O.C.G.A. 10-1-761 et seq., the Massachusetts Trade Secret Act, M.G.L.A. ch.42-42G, and the Defend Trade Secrets Act, 18 U.S.C. § 1831, et seq.

A. “trade secret”

26. Under the Georgia Trade Secrets Act, “trade secret” means:

"Trade secret" means information, without regard to form, including, but not limited to, technical or nontechnical data, a formula, a pattern, a compilation, a program, a device, a method, a technique, a drawing, a process, financial data, financial plans, product plans, or a list of actual or potential customers or suppliers which is not commonly known by or available to the public and which information:

(A) Derives economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and

(B) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. O.C.G.A. 10-1-761(4)

27. The Massachusetts Trade Secret Act contains a similar, but not identical definition of “trade secret”:

"Trade secret", specified or specifiable information, whether or not fixed in tangible form or embodied in any tangible thing, including but not limited to a formula, pattern, compilation, program, device, method, technique, process, business strategy, customer list, invention, or scientific, technical, financial or customer data that

(i) at the time of the alleged misappropriation, provided economic advantage, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, others who might obtain economic advantage from its acquisition, disclosure or use; and

(ii) at the time of the alleged misappropriation was the subject of efforts that were reasonable under the circumstances, which may include reasonable notice, to protect against it being acquired, disclosed or used without the consent of the person properly asserting rights therein or such person's predecessor in interest. M.G.L.A. ch.42 § 4

28. The Defend Trade Secrets Act has yet another similar definition of “trade secret”:

the term “trade secret” means all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if—

(A) the owner thereof has taken reasonable measures to keep such information secret; and

(B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through

proper means by, another person who can obtain economic value from the disclosure or use of the information; 1836 U.S.C. § 1839(3)

29. I note that, in his section on “Basic Legal Principles” in ¶ 12, Mr. Zatkovich did not include any statutory definition of what constitutes a trade secret. In alleging that various items of information of Plaintiffs constitute trade secrets, Mr. Zatkovich in no case applies any statutory definition of “trade secret” to support his allegations of trade secrecy.

B. “improper means”

30. Under the Georgia Trade Secrets Act, “improper means” is defined as:

“Improper means” includes theft, bribery, misrepresentation, breach or inducement of a breach of a confidential relationship or other duty to maintain secrecy or limit use, or espionage through electronic or other means. Reverse engineering of a trade secret not acquired by misappropriation or independent development shall not be considered improper means. O.C.G.A. 10-1-761(1)

31. The Massachusetts Trade Secrets Act contains a similar, but not identical, definition:

“Improper means”, includes, without limitation, theft, bribery, misrepresentation, unreasonable intrusion into private physical or electronic space, or breach or inducement of a breach of a confidential relationship or other duty to limit acquisition, disclosure or use of information; reverse engineering from properly accessed materials or information is not improper means. M.G.L.A. ch.42 § 1

32. The Defend Trade Secrets Act contains yet another definition:

the term “improper means”—

(A) includes theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means; and

(B) does not include reverse engineering, independent derivation, or any other lawful means of acquisition; 1836 U.S.C. § 1839(6)

33. I note that, in his section on “Basic Legal Principles” in ¶ 12, Mr. Zatkovich’s definition of “improper means” under the Georgia Trade Secrets Act was redacted and is incomplete. Mr. Zatkovich omitted a relevant sentence from O.G.C.A § 10-1-761(1), which reads, “Reverse engineering of a trade secret not acquired by misappropriation or independent development shall not be considered improper means.” This provision is important because it is well-established that information that can be obtained from a device that is on sale to the public cannot be a trade secret. Mr. Zatkovich does not address reverse engineering at all.

34. In ¶ 12, Mr. Zatkovich states that the Georgia Trade Secrets Act provides for a five year statute of limitations, and that the Massachusetts Trade Secrets and Defend Trade Secrets Acts provide for a three-year statute of limitations. Despite listing these time periods, Mr. Zatkovich performs no analysis to determine whether this action was brought within any necessary time period.

35. It is my understanding that Plaintiffs refrained from bringing suit as long as BBPOS was selling products to the Defendants, and only sued when this business relationship ended.

36. In any event BBPOS at least was aware of the asserted disclosures from Roam to Ingenico at least as early as the email thread between from August 29, 2012 - September 17, 2012 between Mr. Graylin and Mr. Rotsaert (of which BBPOS had knowledge) referenced in Mr. Zatkovich’s ¶ 52. Given that the longest statute of limitations in this case is five years (Georgia), an action would had to have been brought before September 17, 2017. However, this case was not filed until December 20, 2018, more than a year after expiration of the last statute of limitations.

VI. CASE HISTORY/BACKGROUND

37. Paragraphs 13-55 of the Zatkovich Report lay out a biased history of the case. Mr. Zatkovich makes many assertions of fact in ¶¶ 13-18, 21-22, 24-32, 37-40, 42-51 and 55, but does not provide a single citation to any document in those paragraphs to support his assertions.

38. In ¶ 14, Mr. Zatkovich asserts that “BBPOS is clearly a leader in mPOS technology.” Various dates from 2008 to 2012 are mentioned in the paragraph, and it is not clear of which date Mr. Zatkovich is speaking. I am informed that BBPOS during that timeframe handled magstripe cards only, did not have an EMV contact kernel (Europay-Mastercard-Visa), and had no EMV Contactless solution, so it is not apparent in what way BBPOS was a “leader.”

39. In ¶ 28, Mr. Zatkovich says, “Prior to engaging with BBPOS / ROAM, Ingenico had not developed any mPOS products. While mPOS was listed as a future product, their R&D group had not set any designs in motion as of Dec. ’11.” However, I am informed that 2011, Landi was working actively on products for the growing mPOS market, particularly in China, where Landi was first to design a locally-produced mPOS product. Landi worked with the PBOC (People’s Bank of China) and CUP (China UnionPay), who were developing payment standards for China, and was familiar with mPOS developments.

40. The mPOS market was much more advanced than Mr. Zatkovich suggests. A paper entitled “Security Analysis of Smartphone Point-of-Sale Systems,” by Frisby et al. appeared in the proceedings of the Usenix Conference in August 2012. It contains a security analysis of multiple mPOS systems, including Square, Roam, IDTech UniMag II, and Verifone vx670. The paper is notable for the ease with which the authors were able to reverse-engineer these publicly available devices.

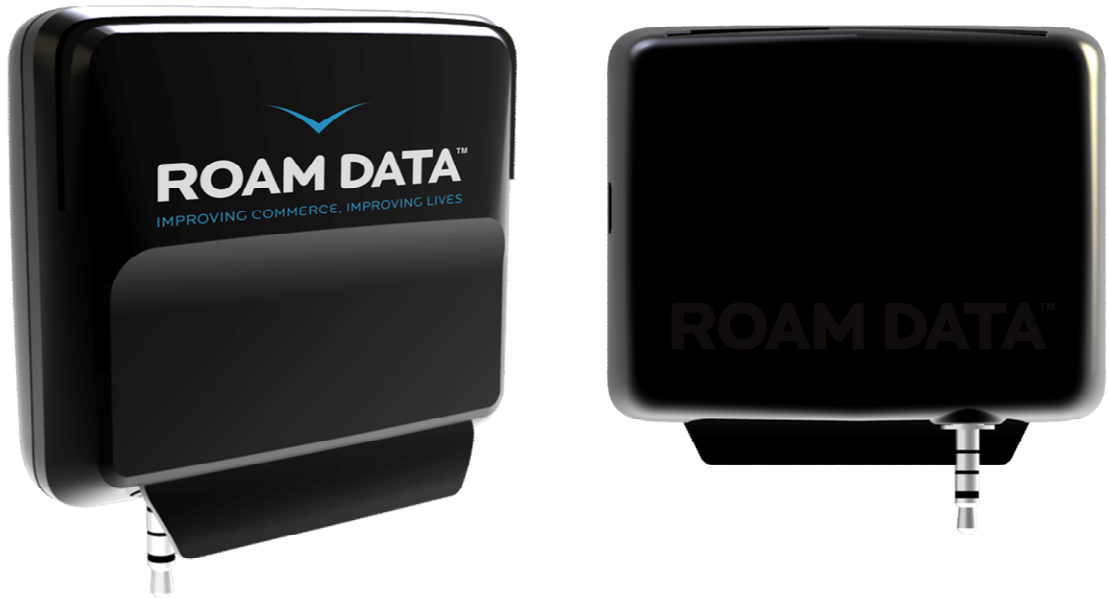
41. Paragraph 30 contains a table purporting to list Ingenico and Landi’s iTMP portfolio from 2013 to 2016. No documentary citations are given to support its assertions, which

I am informed are incorrect. For example, to the extent it is relevant at all, RP100x and RP150x were not based on the R350x platform, but on an entirely different microchip.

42. In ¶ 32, Mr. Zatkovich appears to suggest that Ingenico and Landi were unfamiliar with mPOS technology and therefore must have obtained their knowledge from BBPOS. Mr. Zatkovich asserts, with again no documentary citation, that Landi's mPOS device plan had no funding or milestone projections. However, its 2011 report shows that Landi was already actively working on mPOS based on demand from China UnionPay.



S055 with Roam Data branding



Prototype presented at Cartes



RP350x

43. The RP350x was officially announced in April 2013 after its PCI PTS certification. Samples displayed at the Cartes show in November 2012 was not an RP350x but a repackaged Landi S055. The first sales with production deployment with KCELL, a European customer, only occurred in July 2014. This shows that Ingenico & Landi spent significant time developing a mature, certified product.

44. Meanwhile, as of May 2013, many competitors had entered the mPOS market, including: iZettle, Sumup, Square, Gemalto, Datecs & at least one Chinese company. None of these had contracts with Anywhere Commerce or BBPOS, yet all were able to develop mPOS devices without any disclosures from Plaintiffs.

45. In ¶ 41, Mr. Zatkovich refers to Mr. Rotsaert as a “joint Product Manager.” I understand that Mr. Rotsaert was Vice President of Product Management for ROAM and was also an employee of Ingenico. Mr. Zatkovich claims that Mr. Rotsaert “was sharing BBPOS confidential information with the Ingenico Product Manager,” but does not identify any such person. I understand that Mr. Rotsaert denies that any unauthorized “sharing” took place, and that he was authorized to use BBPOS information for the Cartes demonstration, and that this did not involve any hardware or software relating to an audio jack.

46. In ¶ 42, Mr. Zatkovich says that “BBPOS supplied many documents including trade secret information with Ingenico as part of the Due Diligence.” However, he does not identify and such documents at all, let alone any having confidentiality markings. Further, emails to Mr. Lo indicate that BBPOS did not supply requested technical information as part of Due Diligence.

47. In ¶ 47, Mr. Zatkovich refers to a threat by Ingenico to “destroy” BBPOS. He does not indicate to whom, if anyone, any such threat was communicated, or indicate how it might be relevant to the allegations in this case.

48. In ¶¶ 52-55, Mr. Zatkovich attempts to develop a storyline in which ROAM spills BBPOS confidential information to Ingenico, citing an email thread between Mr. Graylin and Mr. Rotsaert. I am informed by Mr. Rotsaert that the email concerned a joint development workshop between BBPOS & Ingenico, and that BBPOS was fully aware of the people copied on the technical emails and raised no objection at the time because the work being conducted was joint.

VII. TECHNICAL BACKGROUND – POS AND MPOS DEVICES

49. Paragraphs 56-61 of the Zatkovich Report are devoted to technical background, again without citations to any source. Some of the material appears correct but incomplete. Other material is simply incorrect.

50. In ¶ 56, Mr. Zatkovich describes communication between POS devices and a payment server, mentioning WiFi as a possibility. However, cellular communications and short-range technologies such as Bluetooth can also be used.

51. In ¶ 57, Mr. Zatkovich says that mPOS devices need to be “typically smarter than typical POS devices since they have to communicate securely with many types of mobile phones and manage the power of their smaller batteries more efficiently.” He does not say what “smarter” means, and mPOS devices can also draw power from the host mobile phone (e.g., through the audio jack). Further, such an mPOS device does not necessarily have its own battery. Magstripe-only devices such as G5x and the Square magstripe dongle usually have a non-rechargeable battery which requires optimization of power consumption to maximize battery life.

52. Any EMV-based device, such as the RP350x, RP750x, and RP457c, require a rechargeable battery, which was a configuration used in wireless payment terminals years prior to 2012.

53. In ¶¶ 58-59, Mr. Zatkovich appears to be asserting that an mPOS reader is some sort of complex mechanism whose design would have been beyond the capability of makers of non-mPOS devices. Any such implication is incorrect. I am informed by Mr. Rotsaert that a magstripe mPOS reader might have 50 components, while a non-mPOS reader might have over 300. Thus, the suggestion that mPOS readers are of greater complexity is misleading. Power management is more difficult on non-mPOS devices because they often have built-in printers, and use much more power than mPOS. While a magstripe dongle may have a single non-rechargeable coin battery, EMV readers have two batteries: a non-rechargeable coin battery and a larger rechargeable battery. In 2012, BBPOS had a magstripe-only mPOS reader that was not EMV-compatible, hence not suitable for large sectors of its potential market. I am informed that, at the time, Ingenico/Landi were working on contactless EMV mPOS.

54. All Ingenico products are PCI PTS approved, which requires a security circuit that must be powered at all times, which adds significant complexity in power management

55. In ¶ 59(a), Mr. Zatkovich refers to a “card reader,” but BBPOS only read magstripe cards. Magstripe readers were available from many companies, including Ingenico and Landi. Companies such as Magtek back in 2012 provided a development kit and hardware ready for integration to provide magstripe capability. It was even quite common to see a magstripe reader integrated with Cash Register. Thus, many terminal manufacturers, including Ingenico and Landi had mastered Magstripe technology. BBPOS, however, was not able to read

EMV or contactless cards in 2012. Further, BBPOS lacked an “EMV kernel,” which was computer code to communicate with EMV cards and connect to EMV card networks.

56. In ¶ 59(b), Mr. Zatkovich refers to microprocessors, which are a necessary component of card readers. However, the chipset necessary for reading magstripe cards is very basic, while the chipset used by Ingenico/Landi to support EMV, EMVcontactless and PCI PTS capable cards was much more sophisticated.

57. In ¶ 59(c), Mr. Zatkovich mentions power management, suggesting that greater cleverness is required to manage power when battery size is limited. However, that does not follow because mPOS readers themselves used much less power than non-mPOS devices, and this is not a basis for comparing power management capabilities. Nevertheless, the need to manage power effectively on small form factor devices was well-known in the payment industry as well as others. For example, hundreds of basic electronics products, such as garage door remote controllers, have a chipset and rely on a coin battery.

58. In ¶ 59(d), Mr. Zatkovich discusses data security, but any device (mPOS or otherwise) that reads encrypted information from a card needs to process it, and any device (mPOS or otherwise) that must introduce transactions into card networks must implement industry encryption standards. Mr. Zatkovich does not identify any differences between mPOS and non-MPOS devices in this regard.

59. In ¶ 59(e), Mr. Zatkovich points to “specific data formats and methods used to communicate between the mPOS device and the mobile application on the Mobile phone.” This is a red herring. All connected devices must utilize “specific data formats and methods,” and it was typical for device manufacturers to make a software development kit (SDK) available to application developers to communicate with that manufacturer’s devices.

60. In ¶ 59(f), Mr. Zatkovich says that mPOS devices in 2012 typically used a mobile phone's audio jack to communicate with the phone, which required "converting the digital card data into audio signals to send the data over the audio jack, and then converting it back to digital data on the receiving end." I agree, and multiple manufacturers in 2012 made devices that did just that.

61. In ¶ 61, Mr. Zatkovich asserts, without citing any authority, that "manufacturers of traditional POS devices do not have designs nor development processes in place to create the other components and technology that is required for mPOS devices." That statement is without basis. Mr. Rotsaert informs me that Datecs, Square, Ingenico, Landi and Verifone made both mPOS and non-mPOS devices. Mr. Zatkovich does not make meaningful comparisons of complexity among various development challenges. For example, a good argument can be made that implementing the Bluetooth standard, which is over 3000 pages long² and was accomplished by Landi, is more difficult than implementing communication through an audio jack.

VIII. BBPOS ALLEGED TRADE SECRETS

62. Paragraphs 62-117 of the Zatkovich Report are devoted to a description of the supposed BBPOS trade secrets.

63. Paragraph 63 says that the "first three trade secrets relate to BBPOS being able to communicate credit card information between an mPOS device and the mobile phone using the audio jack (i.e. headphone / microphone port) on the Mobile phone." These alleged trade secrets were not secret, but were well-known in the payment community, as I show below.

64. In ¶ 64, Mr. Zatkovich, without citing any authority, says that "at the time, it was unusual to communicate digital information to a mobile phone using an audio jack." That is

² Volume 1 alone is over 1000 pages long. See https://grouper.ieee.org/groups/802/15/Bluetooth/core_10_b.pdf

simply not correct, and I can determine from the materials Mr. Zatkovich considered that he did not consider the right ones.

65. Interfacing to the audio jack of a mobile phone was known at least as early as 1992, as disclosed in Yasuo et al. Japanese patent application JPH0630153A, which discloses:

In the case of the above item, a terminal with an external communication function is connected to the audio jack I/ F (interface) of the cordless handset, and an experiment using a transfer print system using an external line has been performed and confirmed. In addition, a 4-wire to 2-wire conversion cable has been developed in which a communication modem is built in an information terminal and a modular jack of this information terminal and an audio jack of a mobile (automobile) telephone are connected.

66. Further, it was known to use the audio jack of a mobile phone to interface to medical monitoring devices. For example, Nanikashvili U.S. Patent 7,452,878, filed February 16, 2005, discloses at 3:29-43:

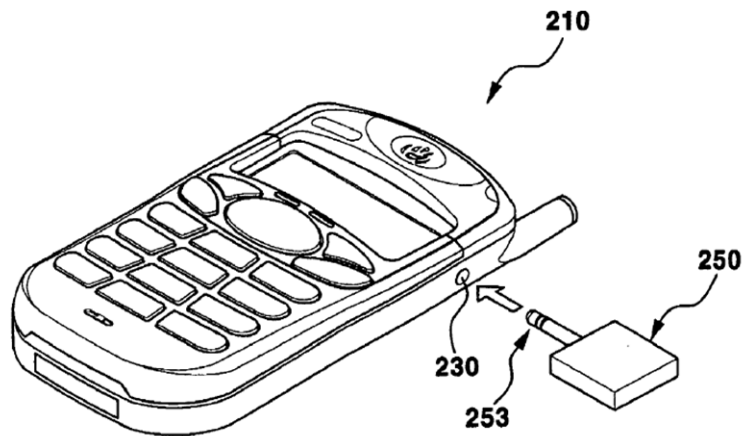
*A cellular phone that does not include a short-range transceiver, such as a bluetooth transceiver can be connected to an adapter or other means that facilitates short-range communication with the phone. U.S. patent application 2003/0045235 of Mooney et al. describes a smart bluetooth interface gate way device that allows a bluetooth headset to establish an audio connection and communicate with a conventional wireless phone (e.g., a wireless phone that does not have bluetooth installed). The connection is controlled merely by monitoring the presence of **sound and tones in the audio stream from an analog audio jack of a conventional wireless phone**. The smart bluetooth interface gateway device is attached to the wireless phone just as a wired headset would. Use of the wireless phone is the same as if a wired headset were plugged in.*

67. The Mooney et al. reference, U.S. Patent Application Publication 2003/0045235, published March 6, 2003, discloses digital communication with a mobile phone through its audio jack. The accessory that is plugged in is a wireless Bluetooth adapter that provides Bluetooth capability to a mobile phone that is not itself Bluetooth-enabled.

68. Challa et al. U.S. Patent 7,857,225, filed November 30, 2007, entitled, “System, Method and Apparatus for Communicating Information from a Personal Electronic Device,” discloses attaching a barcode reader accessory to a mobile phone through its audio jack and using DTMF tones for digital communication.

69. Cehelnik U.S. Patent Application Publication 2006/022910, published October 12, 2006, “Mobile Phone Extension and Data Interface via an Audio Headset Connection,” discloses digital communication with a cellphone through its audio jack.

70. Son et al. U.S. Patent Application Publication 2008/0004894 (“Son”), published January 3, 2008, entitled, “Mobile Commerce Execution Method and Apparatus,” discloses connecting a “mobile commerce module” “coupled with the earphone jack so as to communicate with the mobile device.” The arrangement is shown in Son Fig. 2, reproduced below:



71. Griffin, Jr. U.S. Patent Application Publication 2010/0184479, published July 22, 2010, entitled “System and Apparatus Communicating Digital Data Through Audio Input/Output Ports,” discloses connecting a digital accessory to a mobile phone through the audio jack.

72. Pennock et al. U.S. Patent Application Publication 2012/0008851 (“Pennock I”), published January 12, 2012, entitled “Remote Negotiable Instrument Processor,” discloses

connecting a magnetic ink character reader to a mobile phone through the audio jack to enable input of the MICR line on a bank check. An arrangement is shown in Pennock I, Fig. 3:

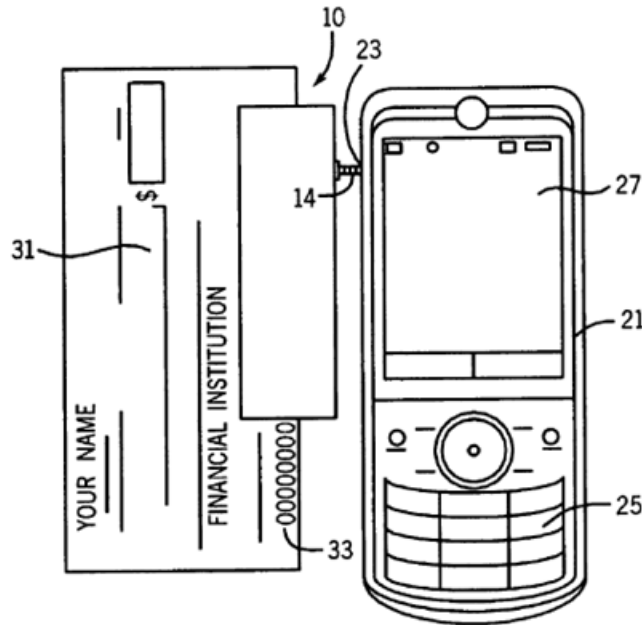


FIG. 3

73. Pennock et al. U.S. Patent Application Publication 2012/0011071 (“Pennock II”), published January 12, 2012, entitled “Remote Invoice and Negotiable Instrument Processing,” discloses connecting a credit card reader to a mobile phone through the audio jack to enable payments to be made remotely. Pennock II states at [0046]:

In a preferred embodiment, the negotiable instrument, electronic payment, financial transaction cards (e.g. credit/ debit/gift card) or the like can be swiped in either direction through the magnetic strip reader 12, allowing the user to easily use the device 10 in any configuration with either hand. Other devices can be used to process other types of payments. For example, the credit card reader from Square, Inc., 901 Mission Street, San Francisco, Calif. 94103 can be used to process card payments, and the camera on the mobile phone, tablet device or the like can be used to take a picture of a check for processing.

74. Mu et al. U.S. Patent Application Publication 2012/0052910 (“Mu”), published March 1, 2012, entitled “Audio Port Communication and Power Device,” discloses connecting a

credit card reader to a mobile phone through the audio jack to enable payments to be made remotely. Mu discloses at [0065]:

Among the many uses for the many embodiments of the present invention is as a card reader, such as a credit card reader. In one embodiment, the peripheral device may be a credit card reader and the host device may be a smart phone. The user may attach and interface the credit card reader to the smart phone via the audio connector line, which may be a phone jack, attached at the respective communication ports of the credit card reader and smart phone. Thereby as an exemplary embodiment, the user may pay for a transaction set up on the smart phone via credit card by simply swiping the credit card reader.

75. On October 13, 2010 Dorsey (a founder of Square) filed an application that was published on April 21, 2011 as International Publication Number WO 2011/047042 (“Dorsey”), entitled, “Systems and Methods for Dynamic Receipt Generation with Environmental Information.” It discloses a credit card reader that attaches to the audio jack of a mobile phone, as shown in its Fig. 16c:

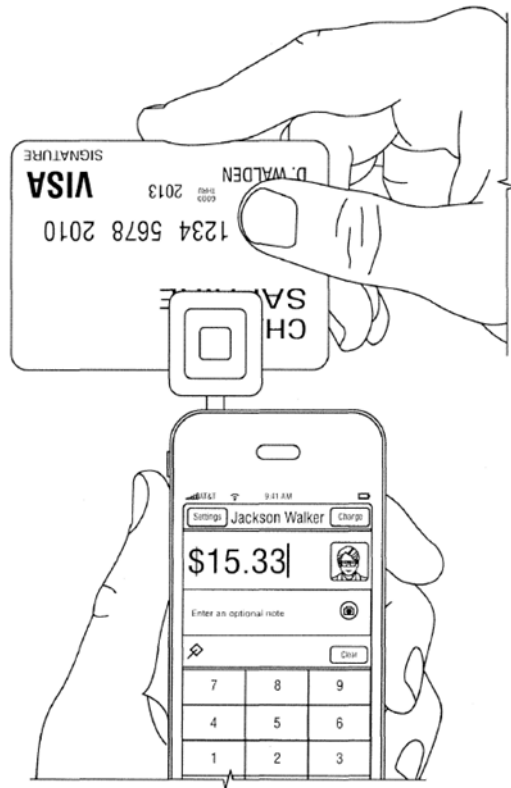


FIG. 16C

76. Shadwell Jr. et al. U.S. Patent Application Publication 2012/0061462 (“Shadwell”), published March 15, 2012, entitled “Audio Jack Enabled Synthetic Barcode Module,” discloses connecting a barcode reader to a mobile phone through the audio jack, as shown in its Fig. 7:

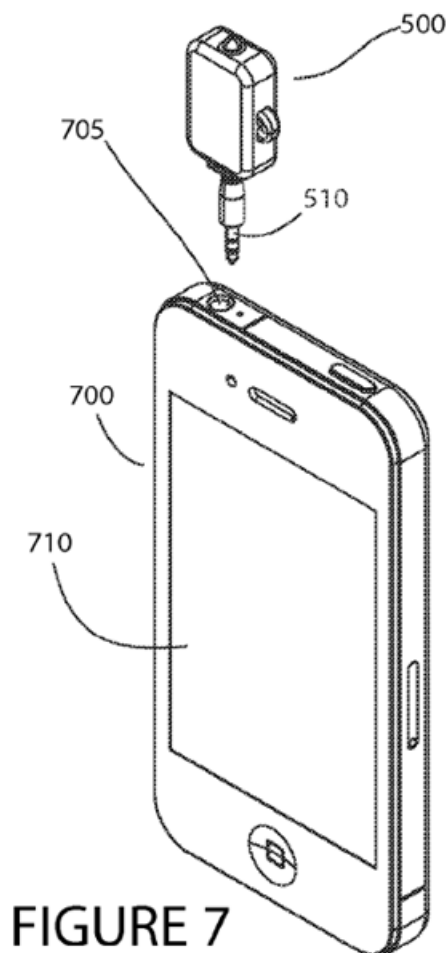


FIGURE 7

77. Tekin et al. U.S. Patent Application Publication 2012/0100887 (“Tekin”), published April 26, 2012, entitled “Integrated Mobile Phone and Medical Implant Monitoring System and Method for Using the Same,” discloses connecting a digital medical sensing device to the audio jack of a mobile phone.

78. These references establish that it was not unusual to connect digital devices to the audio jack of a mobile phone, including in payment applications.

79. In ¶ 65, Mr. Zatkovich lists five supposed trade secrets asserted by BBPOS. These are discussed in the next five sections below:

A. BBPOS’ Audio Jack Polarity Detection design

80. In ¶ 65, Mr. Zatkovich says that audio jack polarity detection “determines if the base of the mobile phone’s audio jack has a positive or negative polarity and to route the microphone/input signal appropriately. This enables a single solution to support multiple mobile phone signal formats.” More details of this supposed trade secret are found in ¶¶ 68-75.

81. By 2012, it was very well known in the industry that there were two audio jack pin configurations having different parity. Both are still in use today. One is the Open Mobile Terminal Platform (OMTP)³. The other is the American Headset Jack (AHJ) standard. These are incompatible because they differ in polarity. However, the jack itself is the same. Therefore, if an AHJ headset is plugged into a receptacle expecting the OMTP standard, it will not function properly. The industry was of course familiar with the fact that there were two different standards and that it would be desirable to accommodate them both.

82. Any solution to polarity detection embodied in any BBPOS circuit could be readily ascertained by reverse engineering.

83. In ¶ 69, Mr. Zatkovich says that “BBPOS discovered that one issue communicating through an audio jack is that not all mobile phones (especially in 2012) adhered to the same audio jack standard.” The fact that there were two “standards,” by the very meaning of the word “standard,” means that anyone in the industry who wanted to communicate via the audio jack of a mobile phone needed to accommodate both standards. This supposed “discovery” was not unique to BBPOS, was readily ascertainable, and was not a trade secret. Mr. Zatkovich admits, in ¶ 75, “BBPOS incorporated their Polarity Detection circuit design in several of their mPOS devices including the GX series (e.g. G4X, G5X). This circuit could be examined by anyone in possession of these devices.

³ See “OMTP Local Connectivity: Wired Analogue Audio” (2007), available at http://www.omtp.org/OMTP_Local_Connectivity_Wired_Analogue_Audio_v1_0.pdf

84. The use of MOSFET transistors for polarity detection was disclosed in Wenger U.S. Patent 6,703,822 (“Wenger”), which issued March 9, 2004, entitled, “Circuit for Detecting a Current Passing Through a Consumer”:

A very advantageous embodiment of the invention has turned out to be one in which the power output stages of the amplifiers are comprised of MOSFETs, which function in push-pull B operation. In this connection, it is very advantageous if the power output stages of the amplifiers are each triggered by means of an operational amplifier that the output of the relevant power output stage is coupled back to. In an embodiment of this kind, it is very useful that the supply voltage of the operational amplifier is higher than the operating voltage of the circuit arrangement, as a result of which the power output stage transistors can be controlled in a fully advanced manner.

Wenger, Abstract

85. The need for polarity detection and correction was disclosed in Yi et al. U.S. Patent 6,809,572 (“Yi”), issued on October 26, 2004 and entitled, “Integrated Circuit with Automatic Polarity Detection and Configuration.” It teaches:

*An integrated circuit on a system board is used, for example, in a digital audio device (such as a DVD or NV receiver). The integrated circuit includes a digital-to-analog converter and the system board may include circuitry to mute the analog output of the device under certain predefined conditions. **Because it may not be known in advance by the designer of the integrated circuit whether the circuit is activated by a signal in a high state (polarity) or a low state, the integrated circuit includes a detector which detects and stores the required polarity. When it is necessary for the circuit to be activated, the detector provides a signal of the correct polarity.***

Yi, Abstract

86. Yi further discloses two-transistor circuits for polarity detection, e.g. in its Fig. 1C:

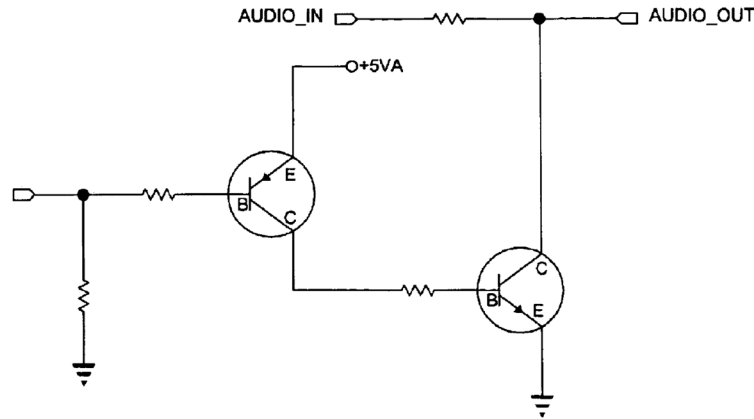


FIG. 1C

87. The need for polarity detection and correction was also disclosed in Cehelnik (referenced above) at [0054]:

*The mobile phone is the demonstration is an LG4400, but other phones will work fine if the headset jack is wired the same. **For noncompliant cases, the circuit is generally applicable, just the pin connections needs reordered.** FIG. 2 shows a 2.5 mm male stereo phone jack 18 that is used to connect the phone extension interface card 56 to the mobile phone female headset jack 19. FIG. 3 shows 1/8 inch stereo phone jack 82 used to connect the phone extension interface card 56 to the basestation headphone jack.*

88. The need to detect polarity of a device plugged into the audio jack of a mobile phone was also disclosed in Poulsen et al. U.S. Patent Application Publication 2012/0134503 (“Poulsen”), entitled, “System and Method for Microphone Polarity Detection,” published May 31, 2012. Poulsen provides solutions to the problem, including circuits and flowcharts. The Poulsen abstract discloses:

The present disclosure provides a method of determining microphone polarity in a headset. By being able to detect the polarity of the microphone within the headset, a portable electronic device may be compatible with any headset and is not limited to use with a specific headset. By applying a detection signal over one of lines within a headset cable, a return signal may be sensed on one of the other lines to determine which of the lines is the ground line and which line is the microphone line.

Implementing Poulsen's solution would not tax the capabilities of an ordinary electronic engineer.

89. By 2012, Texas Instruments was offering a device, the TS3A225E "Autonomous Audio Headset Switch," that detected the polarity of a device connected to an audio jack, described in a TI data sheet⁴ as follows:

The TS3A225E is an audio headset switch device. The device detects the presence of an analog microphone and switches a system analog microphone pin between different connectors in an audio stereo jack. The microphone connection in a stereo connector can be swapped with the ground connection depending on manufacturer. When the TS3A225E detects a certain configuration, the device automatically connects the microphone line to the appropriate pin. The device also reports the presence of an analog microphone on an audio stereo jack.

90. The TI circuit includes two MOSFET transistors:

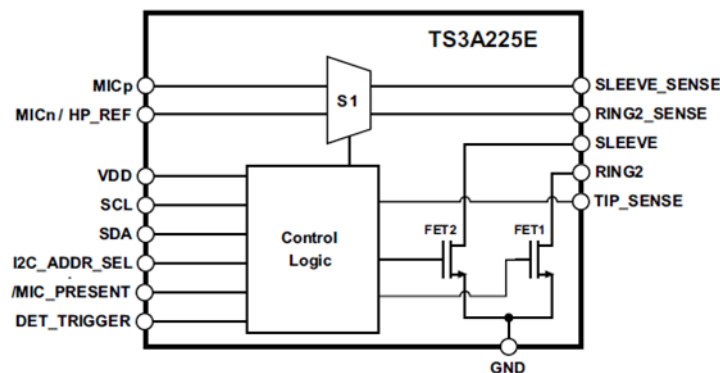


Figure 1. Functional Block Diagram

91. Such circuitry was clearly not a BBPOS trade secret.

B. BBPOS' Power Management design (Auto Power On)

92. In ¶ 65, Mr. Zatkovich says that power management comprises "methods for efficient power use for battery powered mPOS devices as well as performing sleep and auto

⁴ Available at <https://www.ti.com/lit/ds/symlink/ts3a225e.pdf?ts=1646917471403>

wakeup (Power on) functions in order to conserve power.” More details of this supposed trade secret are found in ¶¶ 76-85.

93. It was well-known that audio jack accessories on the market normally did not have an on/off switch, so implementing automatic on/off was just a basic function and was not a trade secret of BBPOS.

94. Further, power management for an EMV reader such as Ingenico’s is very different from that needed for a magstripe-only reader. An EMV reader has a rechargeable lithium-ion battery that Ingenico/Landi master since it is standard for any wireless terminal. A magstripe-only dongle utilizes a non-rechargeable coin battery, so no recharging circuitry is required.

95. Any power management facilities embodied in any circuit in a BBPOS product could be readily ascertained by reverse engineering.

96. In ¶ 76, Mr. Zatkovich asserts that, “since very few companies in 2012 had developed mPOS devices that communicated via the mobile phone’s audio jack, very few, if any, power management methods had been developed for mPOS devices, especially those using audio jack interfaces, except for BBPOS.” He cites no authority for that statement, and it is incorrect.

97. mPOS devices commonly have a battery, and EMV readers have a rechargeable battery because EMV readers consume too much energy to rely on a non-rechargeable battery. A common design requirement is to maximize battery life, so any mPOS device will engage in power management.

98. In a magstripe card reader having a non-rechargeable battery, power management has to be effective for the lifetime of the device.

99. In ¶ 77, Mr. Zatkovich says that “[o]ne of BBPOS’ power management designs allows the microprocessor to put the mPOS device to sleep whenever the device is not active and then to ‘wake up’ or automatically turn on the device when needed.” Even if true, this is not a trade secret of BBPOS. Modes such as “idle,” “sleep” and “deep sleep” are common in small devices such as micro controllers and low power MCUs. I am informed that BBPOS never provided Roam with the source code of its firmware, and there is no evidence that this power management methodology was ever disclosed to Roam.

100. In ¶ 79, Mr. Zatkovich says that “[i]f there is no ‘valid’ activity on the audio jack interface (i.e. no mPOS initialization or transaction), then the mPOS device will power down by turning off the ‘permanent trigger’.” However, doing this is an obvious power management function and was publicly disclosed in multiple sources.

101. Having devices sleep to conserve power and wake on activity was well-known in the field. For example, BBPOS itself made the information public in Chan et al. U.S. Published Patent Application 2012/0293001 (“Chan”), entitled “Power Management Circuitry in Peripheral Accessories of Audio Devices,” published November 22, 2012. It discloses:

*In general, in one aspect the invention provides a power management circuitry that is used in a peripheral electronic device. The power management circuitry includes a power regeneration circuitry, a power selector, a power switch and an audio signal detection circuitry. The power regeneration circuitry is configured to receive a continuous periodic sound wave from an audio device and to convert the continuous periodic sound wave into an amplified DC electrical signal. The power source selector is configured to receive a first input comprising the amplified DC electrical signal from the power regeneration circuitry and a second input from a primary power source and to provide a power signal output. The audio signal detection circuitry is configured to receive the amplified DC electrical signal from the power regeneration circuitry and to transmit a wake-up signal to the power switch circuitry. **The power switch circuitry is configured to be turned on by the wake-up signal and to connect the power source selector to the peripheral electronic device main***

circuitry and thereby to transfer the power signal output to the peripheral electronic device main circuitry.

Chan, [0007]

102. Further, the idea of such power management is even older. Lam U.S. Patent 5,822,598 (“Lam”), entitled “Audio Activity Detection Circuit to Increase Battery Life in Portable Computers,” issued on October 13, 1998, discloses:

*A power management system for a computer system having an audio circuit which generates an audio output signal. An activity detection circuit senses audio signal activity on the analog audio signal. The power management system maintains power to at least the audio circuit when activity is detected on the analog audio circuit by the activity detection circuit. **The power management system causes the audio circuit to enter a power conservation mode when no activity is detected by the audio detection circuit on the audio analog signal for a predetermined amount of time.***

Lam, Abstract

103. Fiennes et al. U.S. Published Patent Application 2009/0307511 (“Fiennes”), entitled “Portable Electronic Devices with Power Management Capabilities,” was published on December 10, 2009. It discloses:

When the electronic device is in the standby mode and activity is detected, the codec may be configured to provide an interrupt signal to a power management unit that wakes the device. When the electronic device is in active mode and no user inputs are received within a given period of time, the central processor in the electronic device may place the device in standby mode.

Fiennes, Abstract

104. Walsh et al. U.S. Published Patent Application 2011/0167287, entitled “Providing Power to an Accessory During Portable Computing Device Hibernation,” was published on July 7, 2011. It discloses:

*A portable computing device (PCD) can selectively supply power to an accessory during PCD hibernation. In some embodiments, the PCD’s **default***

behavior is to disable accessory power output during hibernation, and this default behavior can be overridden in response to a request from a connected accessory. The accessory can use the power supplied during PCD hibernation to detect user input (or other) events and wake the PCD from hibernation in response to a detected event. Some accessories can wake the PCD by emulating accessory detachment and reattachment.

Walsh, Abstract

105. In ¶ 81, Mr. Zatkovich refers to a “power switch” circuit that “enables battery power to microprocessor and the card reader and can also be controlled by the microprocessor using the permanent trigger.” However, it was well-known and obvious for an electronic product whose micro processor controls peripherals to turn them on and off.

106. The ability to turn an interface on or off, which BBPOS asserts to be a trade secret, was in fact a published EMV requirement. The images below are from the “EMV Integrated Circuit Card Specifications for Payment Systems Book 1” (2011)⁵:

EMV 4.3 Book 1
Application Independent ICC to
Terminal Interface Requirements

5 Electromechanical Interface
5.5 Electrical Characteristics of the Terminal

5.5.9 Powering and Depowering of Terminal with ICC in Place

If the terminal is powered on or off with an ICC in place, all signal voltages shall remain within the limits specified in section 5.5, and contact activation and deactivation sequences and timings, as described in sections 6.1.2 and 6.1.5 respectively, shall be respected.

⁵ Available at https://www.emvco.com/terms-of-use/?u=wp-content/uploads/documents/EMV_v4.3_Book_1_ICC_to_Terminal_Interface_2012060705394541.pdf

6.1.2 ICC Insertion and Contact Activation Sequence

On insertion of the ICC into the IFD, the terminal shall ensure that all signal contacts are in state L with values of V_{OL} as defined in section 5.5 and that V_{CC} is 0.4 V or less at the instant galvanic contact is made. When the ICC is correctly seated within the IFD, the contacts shall be activated as follows (see Figure 6):

- RST shall be maintained by the terminal in state L throughout the activation sequence.
- Following establishment of galvanic contact but prior to activation of I/O or CLK, V_{CC} shall be powered.
- Following verification by the terminal that V_{CC} is stable and within the limits defined in section 5.5.6, the terminal shall set its I/O line driver to reception mode and shall provide CLK with a suitable and stable clock as defined in section 5.5.4. The I/O line driver in the terminal may be set to reception mode prior to application of the clock but shall be set to reception mode no later than 200 clock cycles after application of the clock.

Note: The terminal may verify the state of V_{CC} by measurement, by waiting sufficient time for it to stabilise according to the design of the terminal, or otherwise. The state of the I/O line after the terminal has set its I/O line driver to reception mode is dependent upon the state of the I/O line driver in the ICC (see section 6.1.3.1).

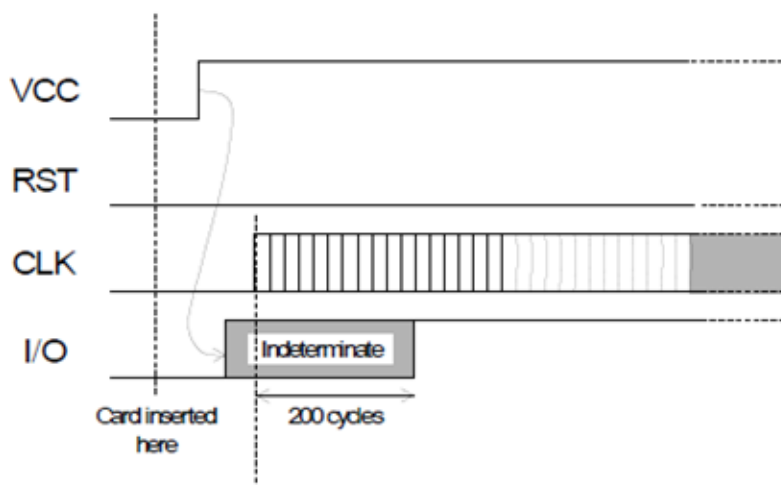


Figure 6: Contact Activation Sequence

6.1.5 Contact Deactivation Sequence

As the final step in the card session, upon normal or abnormal termination of the transaction (including withdrawal of the ICC from the IFD during a card session), the terminal shall deactivate the IFD contacts as follows (see Figure 9):

- The terminal shall initiate the deactivation sequence by setting RST to state L.
- Following the setting of RST to state L but prior to depowering VCC, the terminal shall set CLK and I/O to state L.
- Following the setting of RST, CLK, and I/O to state L but prior to galvanic disconnection of the IFD contacts, the terminal shall depower VCC. V_{CC} shall be 0.4 V or less prior to galvanic disconnection of the IFD contacts.
- The deactivation sequence shall be completed within 100 ms. This period is measured from the time that RST is set to state L to the time that V_{CC} reaches 0.4 V or less.

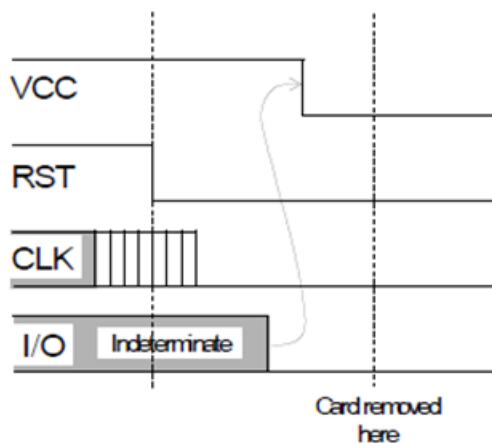


Figure 9: Contact Deactivation Sequence

6.2 Abnormal Termination of Transaction Process

If an ICC is prematurely removed from a terminal during execution of a transaction at speeds of up to 1 m/s, the terminal shall be capable of sensing the movement of the ICC relative to the IFD contacts, and of deactivating all IFD contacts in the manner described in section 6.1.5 before the relative movement exceeds 1 mm. No electrical or mechanical damage shall be caused to the ICC under these conditions.

Note: For 'sliding carriage' type IFDs, it may be possible for the terminal to sense the movement of the ICC/IFD contact sub-assembly relative to the main body of the IFD. In this event, it is not mandatory to be able to sense the movement of the ICC relative to the IFD contacts, but deactivation of the contacts shall be complete before any electrical contact is broken between the ICC and IFD.

107. In ¶¶ 82-85, Mr. Zatkovich shows some circuits allegedly developed by BBPOS. Forty pages later, in ¶¶ 165-167, Mr. Zatkovich presents some Ingenico schematics, and says that Ingenico's circuits act "in a similar fashion." He does not say, and cannot say, that the circuits are the same, or even similar, or that one is derived from another, but only that they ultimately perform similar functions. I will discuss this in further detail beginning in ¶ 172, below.

C. BBPOS' Pre-analyzed communication settings and adaptive threshold (or Auto Gain Control)

108. In ¶ 65, Mr. Zatkovich says that the communication settings trade secret "determines the appropriate gain (e.g. signal thresholds) to use in decoding data, and at what speed to reliably transmit and receive the information based parameters defined for the specific mobile phone being used." More details of this supposed trade secret are found in ¶¶ 85-99.

109. Any adaptive threshold facilities embodied in any BBPOS circuit could be readily ascertained by reverse engineering. Ingenico had no access to the source code of the BBPOS SDK, so any adaptive threshold facilities resident in that code was not available to Ingenico.

110. In ¶ 92, Mr. Zatkovich refers to BBPOS's analysis of 11 different parameters for 442 phone models. By their very nature, these parameters were readily ascertainable from the phones themselves, and cannot constitute a trade secret of BBPOS. Anyone in the industry could obtain these parameters, which contain no BBPOS information. Further, Mr. Zatkovich furnishes no evidence that the values of these parameters were ever disclosed to Ingenico.

111. It was known to determine a type of device from its electrical properties. Patterson et al. U.S. Patent Application Publication 2004/0081099 ("Patterson"), entitled,

“Identification System and Method for Recognizing Any One of a Number of Different Types of Devices,” was published on April 29, 2004. It discloses:

An identification system and method for recognizing a device as one of a plurality of different types of devices connected to at least one terminal of an information handling system includes supplying a test signal to a device in a test mode; measuring an electrical characteristic of the device in response to the test signal being applied to the device in the test mode; and matching a representation of the electrical characteristic of the device with representations of the electrical characteristics of the plurality of devices for recognizing the device connected to the terminal as one of the plurality of different devices.

Patterson, Abstract

Identification of external devices and moreover internal reconfiguration to accommodate input from or output to external devices is even more critical with respect to smaller, portable devices such as cell phones and PDAs where often only one connection or jack can be provided to receive a plug.

Patterson, [0005]

112. The only way to make use of this information to identify a device is to have pre-analyzed communication settings available to be compared with measured parameters.

113. In ¶¶ 89 and 93-99, Mr. Zatkovich discusses a BBPOS “adaptive threshold method” for “automatic gain control.” However, he provides no evidence that the details of the method, which is described in the flowcharts in ¶¶ 93-97, were ever disclosed to Ingenico.

114. The use of adaptive thresholding to process audio signal carrying digital data was disclosed publicly in the above-referenced Dorsey application WO 2011/047042, specifically with respect to a credit card reader attached to a mobile phone. Some relevant disclosures follow:

[0059] The flowchart 1400 continues to block 1404 where decoding engine 110 detects the card swipe once the incoming signals are in a steady state. This signal detection phase processes the incoming signals in steady state in order to detect the presence of a swipe of a card through the card reader. The signal

detection phase is a light-weight procedure that operates at near real time. It parses the incoming signals quickly and stitches multiple system buffers of signals together to form a signal of interest. In some embodiments, the signal detection process goes through at least the following steps:

- 1. Apply a software upscale of system buffers of the incoming signals.*
- 2. Begin taking buffers of incoming signals and look for points that exceed a minimum signal amplitude threshold, which is a hardware-based parameterization found empirically.*
- 3. Set a flag that triggers the detection of a swipe once a single point that exceeds the threshold is detected. Once the flag triggered, the incoming signal is appended to a larger buffer until the signal drops below a minimum signal amplitude threshold for a certain period of time, e.g., 10ms.*

115. Dorsey also discloses an adaptive threshold technique called “reactive peak detection”:

[0062] Reactive peak detection is a heuristics based approach for peak detection, which is well suited for situations where the incoming signals from the card swipe is not excessively distorted by the mobile device's filter circuitry. This approach utilizes at least the following steps to detect signal peaks:

- 1. **Seed an adaptive positive and adaptive negative threshold** with an ambient noise value that is dependent on the hardware of the mobile device. These thresholds will be used for initial peak detection.*
- 2. Begin processing through the sample buffer, and for each sample in the buffer:*
- 3. **Wait for the threshold to be crossed** again when either the negative or positive threshold is crossed, except with a hysteresis factor applied to the threshold for the second crossing. The hysteresis factor is key in making this approach resistant to ringing in the incoming signals, which is associated with the active filter(s) of the platform hardware.*
- 4. Begin looking for slope changes within this time frame once the two samples **where the threshold is crossed** have been established.*

116. Therefore, the concept of adaptive thresholding to detect peaks in a filtered signal coming from a device connected to the audio jack of a mobile phone was not a trade secret of BBPOS.

D. BBPOS' proprietary mPOS communication formats

117. In ¶ 65, Mr. Zatkovich says that communication formats comprise “over 25 different formats for sending credit card and transaction related information between the mPOS device and the mobile phone to ensure compatibility with different mobile payment vendor applications.” More details of this supposed trade secret are found in ¶¶ 100-106.

118. The formats used by payment applications were publicly available. In 2002, Bank of America published a large number of payment card formats in its “Bank of America Merchant Services MultiLink® Message Specification Authorization Formats for Debit, Credit, EBT, Check Acceptance and POS Check Version 4.02.”⁶

119. In 2011, Unitech published a user manual⁷ for its MS246 Magnetic Stripe Reader that listed numerous payment card and DUKPT formats. Thus, these were not trade secrets.

120. In ¶ 100, Mr. Zatkovich refers to “BBPOS' proprietary mPOS communication formats.” However, the formats simply arrange information that is required to be communicated to a specific vendor's (e.g. PayPal's) payment application. The required information is specified by the payment application provider, not by BBPOS.

121. The need to send data in a particular format to a device that only accepts that format is elementary and obvious. Each time a manufacturer wants to support a new model of

⁶ Available at [https://www.wmata.com/business/procurement/solicitations/documents/fQ11161-AM-02Attachment-Multilink_Message_Specification_v4%2002%20\(4\).pdf](https://www.wmata.com/business/procurement/solicitations/documents/fQ11161-AM-02Attachment-Multilink_Message_Specification_v4%2002%20(4).pdf)

⁷ Available at https://images10.newegg.com/UploadFilesForNewegg/itemintelligence/UNITECH/MS246_Manual1411792183052.pdf

mobile phone, it is essential to ascertain the required format and conform to it. The communication formats are specified by the phone manufacturers, not by BBPOS, are not trade secrets of BBPOS, and are readily ascertainable from phone manufacturers.

122. Further, any mPOS communication formats used in any BBPOS product could be readily ascertained by reverse engineering simply by capturing communications between the product and a mobile device and examining their formats.

123. Mr. Zatkovich does not explain what business advantage any of the formats provided to BBPOS, which I understand is a requirement for a trade secret.

124. In ¶ 106, Mr. Zatkovich displays some code from SwiperDecoder.java that supposedly interprets a format, but there is no evidence this code was ever disclosed to Ingenico. Further, the code is trivial, consisting of instructions to pluck various data fields out of a record. Any program written to perform the same function would necessarily resemble this code.

E. BBPOS' Data Security / Encryption Methods (DUKPT Data method)

125. In ¶ 65, Mr. Zatkovich says that data security/encryption methods comprises “methods for encrypting credit card data based on variations of data encryption methods.” More details of this supposed trade secret are found in ¶¶ 107-112.

126. In ¶¶ 107-110, Mr. Zatkovich acknowledges that TDES, DUKPT and key injection were industry standard techniques. Therefore, far from being secret, they were widely disseminated so that manufacturers could adhere to them. In ¶¶ 108 and 111-112, he describes a variant developed by BBPOS that was allegedly unique to BBPOS but differed from the standard methods in two ways: (a) encrypting data using PIN variants instead of data variants; and (b) deriving an encryption key without performing TDES self-encryption. He describes this as being more efficient without sacrificing security, but offers no evidence this is the case. Furthermore, I understand that this BBPOS variation on DUKPT was disparaged by the payment industry and

was rejected by Visa when Roam Data attempted to obtain Visa Ready Approval for it. Visa Ready was a security standard promulgated before PCI SSC released a PCI standard applicable to card readers without PIN entry capability.

127. What BBPOS actually did was to apply the DUKPT standard used for encrypting PINs and used it for encrypting non-PIN data. The algorithms were already known – BBPOS just applied them in a nonconforming manner.

128. I understand from Mr. Rotsaert that Ingenico did not use this modification, except in a prototype for the Cartes demonstration.

129. To the extent that any encryption methods are embodied in any BBPOS product, they could be readily ascertained by reverse engineering the mobile phone code that performs decryption.

F. BBPOS’ protection of the asserted trade secrets

130. In ¶¶ 113-117, Mr. Zatkovich describes steps BBPOS took to secure its supposed trade secrets. A glaring omission from this section is any recognition of the fact that, once a product is sold to the public, any information about its operation that can be ascertained from it by reverse engineering is no longer a trade secret, if it ever was. This is because information that is readily ascertainable by proper means is not a trade secret, and reverse engineering is a proper means under the Georgia Trade Secrets Act, the Massachusetts Trade Secret Act, and the Defend Trade Secrets Act.

131. In ¶ 113, Mr. Zatkovich refers to the “BBPOS-ROAM Licensing Agreement” executed in May 2010. (This document can be found at Dkt. 67-1.) In ¶ 36, Mr. Zatkovich explains his understanding of the agreement, but does not discuss its definition of “Confidential Information,” which is reproduced here:

6.2 “Confidential Information” shall mean information (whether written or oral) of a confidential or proprietary nature concerning this Agreement or the assets, products or business of any party hereto that either party shall have obtained as a result of discussions or communications related to this Agreement or the transactions contemplated undertaken by this Agreement, including (but not limited to) in the case of the Company, the technical and other information I concerning the Products and Devices and related documentation. Without limiting the generality of the foregoing, the terms and conditions of this Agreement are hereby deemed Confidential Information. Also without limiting the generality of the foregoing, if either party hereto receives from the other party written information that is marked “Confidential” and/or “Proprietary”, such information shall be deemed “Confidential Information.” The obligation to keep Confidential Information confidential shall not apply to any information that has been disclosed in publicly available sources; is, through no fault of the party receiving the confidential information, hereafter disclosed in a publicly available source; or is in the rightful possession of the party receiving the confidential information without an obligation of confidentiality.

132. In the foregoing, “Company” refers to Roam Data, Inc.

133. According to the definition, there is no obligation to keep Confidential Information confidential if it “has been disclosed in publicly available sources.”

134. In ¶ 114, Mr. Zatkovich says that “BBPOS documents were created with the designation of “BBPOS Confidential and Proprietary” such that all parties receiving them would be made aware that the information contained therein should be protected as such.” However, he does not give a single example of such a document, let alone any such document that was disclosed to ROAM.

135. In ¶ 115, Mr. Zatkovich quotes from testimony by Ben Lo. However, I am informed that the quoted statement is not applicable to the BBPOS-Roam contract, which granted Roam the exclusive right to sell Gx products, except in China and the Philippines. PayPal and Roam customers did not sign a NDA with BBPOS, but with Roam Data.

136. BBPOS data was released to Roam, which could then pass it to customer, who needed it to create their software.

137. In ¶ 116, Mr. Zatkovich gives a list of steps supposedly taken by BBPOS to protect its confidential data. One of these is: “All BBPOS documents, trade secret or otherwise, are notated with the designation of ‘Confidential and Proprietary BBPOS Limited’ in the headers and footers of each page.” He does not give a single example of such a document, let alone one that was allegedly disclosed to Roam. Further, it is clear that BBPOS emails did not contain such notations.

IX. BBPOS SHARED TRADE SECRETS WITH ROAM/INGENICO

A. Information Sharing Timeline and Relationship Activities

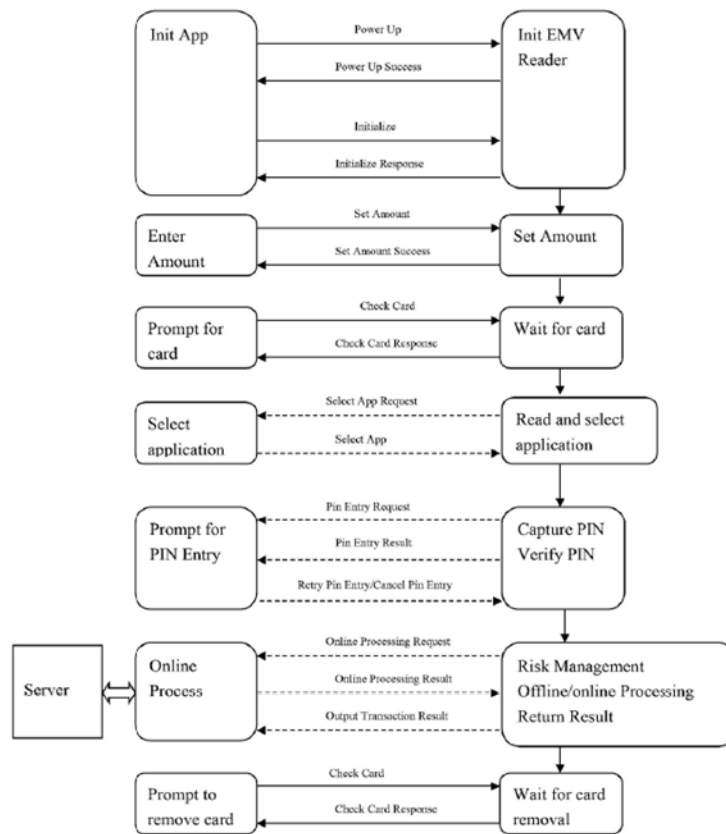
138. As a threshold matter, I have examined all the BBPOS documents Mr. Zatkovich has alleged were provided to Roam containing supposed trade secrets. Only a handful of them contains any confidentiality notice (other than the word “CONFIDENTIAL” that was added belatedly during Bates numbering).

139. Of 53 BBPOS documents referenced by Mr. Zatkovich, only eight bear confidentiality markings: BBPOS_004628-648, BBPOS_0005113-114, BBPOS_0005115-116, BBPOS_0005123-137, BBPOS_0005633-645, BBPOS_0005649-663, BBPOS_1632220-225, BBPOS_1687724-754.

140. BBPOS_004628-648 is entitled, “Swiper API Programming Guide for Android.” However, Mr. Zatkovich does not show that any content of this document was used by Ingenico.

141. BBPOS_0005113-114 is titled “EMV Flow,” and consists of this one-page diagram:

1. EMV Flow



142. Although labeled “Confidential,” the document does not contain any confidential information, and Mr. Zatkovich does not indicate how it relates to any of the alleged trade secrets. It simply reflects EMVCo’s requirements for communication between a reader and a payment application.

143. BBPOS_0005115-116 does not appear to be related to any of the alleged trade secrets.

144. BBPOS_1632220-225, entitled, “Data Format for Communication between API and ROAM Application Server,” describes the formats in which various swipers output data. These are not trade secrets of BBPOS, and, in any case, Mr. Zatkovich does not show that this information was even used by Ingenico.

145. The remaining four marked documents are all titled “Data Output Format for POS device,” and are four different revisions containing information about card formats. However, these formats are determined by the card issuers, and are not a trade secret of BBPOS.

146. The fact that only eight of his 53 documents are marked as confidential contradicts Mr. Zatkovich’s assertion in ¶ 116 that “[a]ll BBPOS documents, trade secret or otherwise, are notated with the designation of ‘Confidential and Proprietary BBPOS Limited’ in the headers and footers of each page.” That is clearly not true.

147. There would be no way, then or now, for the recipient of any other documents to know that they contained alleged trade secrets. The fact that a few documents are marked “confidential,” while others are not, suggests that the unmarked documents were not confidential.

B. BBPOS trade secrets shared with ROAM

148. In ¶¶ 119-139, Mr. Zatkovich discusses material allegedly disclosed by BBPOS to ROAM.

149. In ¶ 124, Mr. Zatkovich alleges that Landi was “a POS development shop who also had a portfolio of POS products, again mostly wired and none using the audio jack interface of a mobile phone.” He cites no authority for that statement, and Mr. Rotsaert informs me that it is incorrect and that Landi had mobile phone interfaces in development in 2012. Below is a spreadsheet showing the list of smartphones supported by Landi in December 2012.

Brand	Device model	CPU	Core number	OS Version (Android)	Time to market
Samsung	I9001	Snapdragon MSM8255	1	2.3	2011
	I9100G	OMAP4430	2	2.3	2011.8
	I9103	Nvidia Tegra2	2	2.3	2011
	SCH-I589	Snapdragon MSM7627	1	2.2	2011.7
	I9008L	OMAP3630		2.2	2011
	I919	Snapdragon MSM8655	2	2.3	2011
	I909		1	2.1	2010.9
HTC	HTC G17	Snapdragon MSM8660	2	2.3	2011.6
	Z510d	Snapdragon QSD8650	1	2.3	2011.9
	510e Wildfire	Snapdragon MSM7227		2.3	2011.7
	S610d	Snapdragon MSM7630		2.3	2011.9
	S710d	Snapdragon MSM8655		2.2	2011.4
MOTO	ME860	Nvidia Tegra2	2	2.2	2011.4
	MT680	Marvell PXA920H		2.3	2012.6
	XT531	Snapdragon MSM7227		2.3	2011.7
	MT887	OMAP4430		4	2012.6
	ME722 2/A953	OMAP3630		2.2	2010.9
Sony Ericsson	LT29i	Snapdragon MSM8260A	2	4.0	2012
	LT28i	Snapdragon MSM8660	2	4.0	2012
	MT15i	Snapdragon MSM8255	1	2.3	2011.3
	WT15i	Snapdragon MSM8255	1	2.3	2011.3
LG	P880	Nvidia Tegra3	4	4.0	2012
	P970	OMAP3630		2.2	2011.3
Lenovo	A500	MTK6573	1	2.3	2011
	A580	Snapdragon MSM7227A	1	4	2012
	A698t	MT6515+AST2001	1	4	2012.6
	S760	Snapdragon MSM7227T	1	2.3	2011.12
	phoneS2 Idea phoneS2	C111 Samsung C111	1	OS 3.0 (Base on Android 2.3)	2011.11
ZTE	U880	Marvell PXA920		2.2	2011.5
	V889D	Snapdragon MSM7227A	1	2.3	2012
	N880E	Snapdragon MSM7627A		2.3	2012
	V880	Snapdragon MSM7227		2.2	2010.11
	V960	Snapdragon MSM7227T		2.3	2011.8
Huawei	C8650	Snapdragon MSM7627		2.3	2011.8
	U9510	K3V2 Hi3620	4	4.0	2012.9
	S8600 Spark	Snapdragon MSM7627T	1	2.3	2011.9
	U8800/C8800	Snapdragon MSM8255/ Snapdragon MSM7627T	1	2.2	2011.9/2011.03
	T8830	MT6575	1	4.0	2012
	G330D	Snapdragon MSM8225	2	4.0	2012
K-Touch	W806	Nvidia Tegra2	2	OS 2012 Cloud OS 2012	2012.4
OPPO	Real R803	800		2.3	2012.3
Coolpad	9900	Snapdragon MSM8660	2	2.3	2011.11
TP-link	T882	MSM8255		4.0	2012
Vivo	Vivo S7	MT6575		4.0	2012
Hisense	HS-U8	Snapdragon MSM7227A		2.3	2012
Haier	W910	Snapdragon MSM8260A	2	4.0	2012.7
					(46pcs)

150. Mr. Rotsaert's view is further supported by the email exchange Mr. Zatkovich refers to in ¶¶ 126-127 between Mr. Rotsaert and Mr. Lo, in which Mr. Rotsaert says that "swipe, audio jack interface & power management are not ready," not that they do not exist. I am informed that the prototype presented at Cartes was in fact functional.

151. In ¶ 128, Mr. Zatkovich says that "BBPOS began providing information to the ROAM Data team in Feb 2012 to continue development on the next version of EMV and NFC enhancements." It is true that Roam was working on EMV and NFC, but there is no evidence that BBPOS provided Roam any disclosures relating to EMV or NFC.

152. In ¶ 132, Mr. Zatkovich states that "Coupled with the assumption that an Acquisition of BBPOS was in process, the BBPOS team complies with all requests to provide information on their product designs and status." He cites no authority for that statement, and Mr. Rotsaert informs me that he complained numerous times to BBPOS that he was not getting the requested information.

153. In ¶ 134, Mr. Zatkovich states that BBPOS shared technical specifications for the new ROAM pay API, 4.0 v1.2, with ROAM and Ingenico. Clearly, BBPOS was not the owner of ROAM's API, and Mr. Rotsaert informs me that BBPOS was acting as a contract software developer on the API project and has no basis for its claim of ownership.

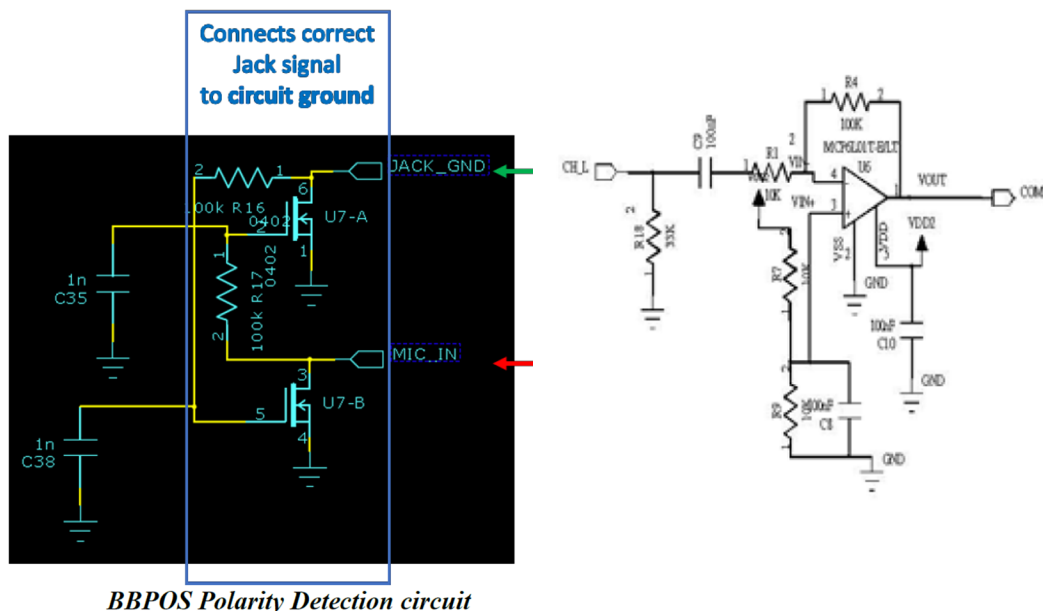
154. In ¶ 136, Mr. Zatkovich refers to a request from Mr. Rotsaert in an effort to propose a solution for an EasyCash (ING Germany) demo, to which BBPOS replied with a version of its Swiper Data Output Format, citing BBPOS_0005121-BBPOS_0005122. However, the output format used by a swiper is readily ascertainable by capturing the output of the swiper, and cannot be a trade secret. I understand further that the demo never took place because Visa

Europe required all payment terminals to support Magstripe, EMV, Pin entry & contactless interfaces-

C. Audio Jack Polarity Detection trade secret information requested/received

155. In ¶ 140, Mr. Zatkovich refers to polarity detection schematics that were furnished to Roam. However, as I show below, Ingenico's polarity detection circuit was not based on that of BBPOS.

156. Further, it is not even clear what the "polarity detection circuit" consists of. The circuit diagram illustrated in ¶ 70 of the Zatkovich Report is different from the circuit he says in ¶ 141 is the polarity detection circuit. The ¶ 70 circuit is shown on the left below. The ¶ 141 circuit is on the right.

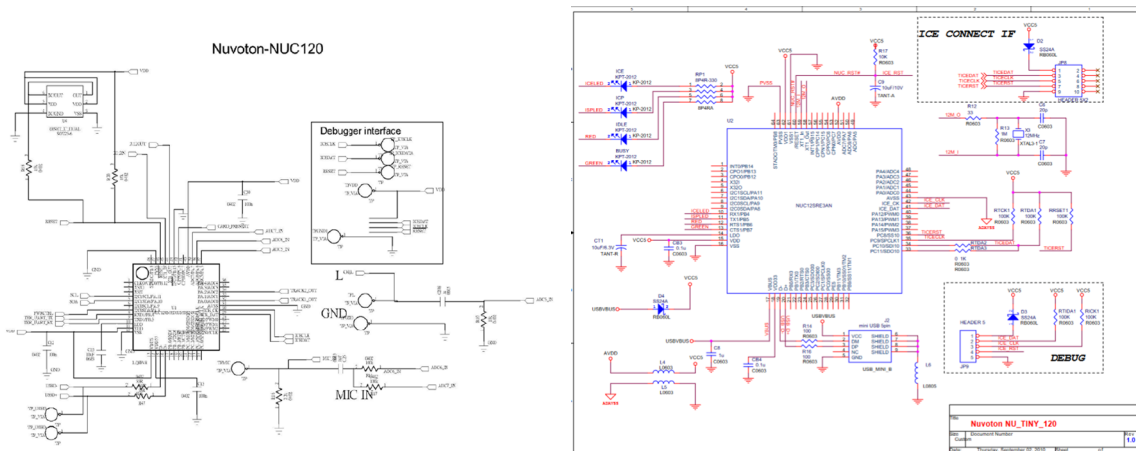


157. These circuits are not the same. They differ in the number and arrangement of components.

158. None of the circuit drawings allegedly sent to Ingenico contains any confidentiality marking.

D. Power Management trade secret information requested/received

159. In ¶ 141, Mr. Zatkovich refers to disclosure of schematics allegedly sent from BBPOS to Roam. These schematics are misleading because they consist primarily of drawings taken from chip manufacturers' data sheets, and, to that extent, they were not created by BBPOS. For example, Mr. Zatkovich points to IngenicoInc_0010195-200, but this contains a data sheet from Nuvoton, whose NUC120 chip was proposed to be used. At left below is IngenicoInc_0010195. At right is a NUC120 data sheet I obtained from <https://media.digikey.com/pdf/Data%20Sheets/Nuvoton%20PDFs/NUC120.pdf>



160. Mr. Zatkovich does not identify what portion, if any, of the shared documents represents the alleged trade secrets and which portions are simply reproduced from third-party sources. A third-party data sheet is not a trade secret of BBPOS. None of the schematics bears any confidentiality markings.

E. Automatic Gain Control (and SDK) trade secret information requested/received

161. In ¶ 142, Mr. Zatkovich points to two documents allegedly containing disclosures of this trade secret, IngenicoInc_0009756-9767 and IngenicoInc_0283863-864. These documents together constitute only four pages, without any confidentiality markings, and no circuit diagrams. However, in ¶¶ 91-92, Mr. Zatkovich refers to 11 parameters BBPOS

measured for 442 mobile phone models, i.e., 4862 parameters. The four pages disclosed to Roam do not contain even a single one of those parameters, and Mr. Zatkovich presents no evidence that either the 11 types of parameters, or any individual value of any parameter for any particular mobile phone model was ever disclosed to Roam.

162. Further, Mr. Zatkovich provides no evidence that any BBPOS automatic gain control circuit or algorithm was ever disclosed to Roam.

F. Communication Formats (and SDK) trade secret information requested/received

163. In ¶ 143, Mr. Zatkovich lists multiple documents relating to data formats that were disclosed to Roam. However, as I have already explained in ¶¶ 117-124, a communication format cannot be a trade secret because it is readily ascertainable by examining the communications themselves.

G. Data Security / DUKPT Data Encryption Methods trade secret information requested/received

164. In ¶ 144, Mr. Zatkovich lists various documents containing DUKPT source code that were sent to Roam. However DUKPT is a publicly available algorithm for which many open source code sets are available online. The only conceivable trade secret in BBPOS's DUKPT implementation, based on Mr. Zatkovich's description of the alleged trade secrets would be the non-standard variations introduced by BBPOS. Mr. Zatkovich does not indicate which, if any, portions of the code relate to the supposed trade secret.

X. ROAM /INGENICO'S USE OF THE TRADE SECRETS

165. In ¶¶ 145-146, Mr. Zatkovich asserts that Ingenico used BBPOS trade secrets in various requirements documents. However, none of the material that appears in the cited requirements documents was a trade secret of BBPOS.

A. Ingenico's use of BBPOS' Audio Jack Polarity Detection design

166. In ¶¶ 147-160, Mr. Zatkovich alleges that Ingenico used BBPOS’s polarity detection design. It did not.

167. In ¶ 149, Mr. Zatkovich cites a requirement document containing the requirement to “detect polarity to switch automatically MIS/GND.” However, as I pointed out earlier, there are only two possible polarities, and switching to the correct polarity is essential for proper functioning of a device. It was not a trade secret. On the contrary, it was commonly known in the trade.

168. The fundamental problem with Mr. Zatkovich’s demonstration is apparent in ¶¶ 152-153 and again in ¶¶ 154-155. In ¶¶ 152-153, Mr. Zatkovich reasons from the fact that both BBPOS and Ingenico circuits use two MOSFET transistors. However he fails to explain the fact that the BBPOS circuit uses two resistors (R16 and R17) and two capacitors (C38 and C35), while these four components are completely absent from the Ingenico circuit. Not only are these not the same circuit, but neither is derived from the other.

169. The photograph in ¶ 154 shows no more than that the Ingenico device has an audio jack attached to a circuit board. That is not a trade secret of BBPOS.

170. In ¶¶ 155, 157 and 160, Mr. Zatkovich says that the pairs of illustrated devices “use the same design,” but they plainly do not.

171. In ¶¶ 156-159, Mr. Zatkovich compounds the problem by relying on photographs of Ingenico and BBPOS devices that look visually similar. However, an electrical engineer would know that comparison of circuits, not photographs, is what matters. All mPOS devices that connect to an audio jack have an audio plug. All polarity detection and correction circuits have a ground connection. A comparison of photographs is meaningless in this context.

B. Ingenico’s use of BBPOS’ Power Management design (Auto Power On)

172. In ¶¶ 160-167, Mr. Zatkovich says that Ingenico used BBPOS’ “power management design.” It did not. There is a profound difference between implementing a common feature and using a trade secret design in doing so. Mr. Zatkovich shows no more than that Ingenico implemented the feature.

173. Mr. Zatkovich’s allegations in ¶¶ 161-167 border on the ludicrous. He argues that it was a BBPOS trade secret to have a device turn on when it is plugged in. However, such a function is essential for a device that does not have an on/off switch, or there would be no way to render it operational.

174. He does not exhibit any BBPOS circuit, yet somehow claims that Ingenico’s circuits are “similar” to the undisclosed BBPOS circuit.

175. In ¶ 167, Mr. Zatkovich says he tested various Ingenico devices and verified that “when that mPOS initialization occurs, the Ingenico device turns-on and remains on, exhibiting the same behavior as the BBPOS.” However, the “behavior” is not a trade secret, even if a specific circuit to perform that behavior might be. However, Mr. Zatkovich does not show any BBPOS circuit to which an Ingenico device might be compared.

176. The “behavior” to which Mr. Zatkovich refers was publicly available. BBPOS itself made this information in Chan, referred to above. It discloses:

In general, in one aspect the invention provides a power management circuitry that is used in a peripheral electronic device. The power management circuitry includes a power regeneration circuitry, a power selector, a power switch and an audio signal detection circuitry. The power regeneration circuitry is configured to receive a continuous periodic sound wave from an audio device and to convert the continuous periodic sound wave into an amplified DC electrical signal. The power source selector is configured to receive a first input comprising the amplified DC electrical signal from the power regeneration circuitry and a second input from a primary power source and to provide a power signal output. The audio signal detection circuitry is configured to receive the amplified DC electrical signal from the power regeneration circuitry

and to transmit a wake-up signal to the power switch circuitry. The power switch circuitry is configured to be turned on by the wake-up signal and to connect the power source selector to the peripheral electronic device main circuitry and thereby to transfer the power signal output to the peripheral electronic device main circuitry.

'001 Application, [0007]

C. Ingenico's use of BBPOS' Pre-analyzed communication settings and adaptive threshold (or Auto Gain Control)

177. In ¶¶ 168-173, Mr. Zatkovich attempts to show that Ingenico used BBPOS' pre-analyzed communication settings and adaptive threshold. However, I showed above in ¶¶ 161-162 that the settings nor the adaptive threshold process was disclosed to Roam. Therefore, use, by Ingenico, if it occurred at all, could only have resulted from legitimate reverse engineering. Mr. Zatkovich himself says in ¶¶ 171-172 that he was able to reverse-engineer the settings from a SDK by decompiling APIs. Any information that can be obtained in this manner cannot be a trade secret.

D. Ingenico's use of BBPOS' BBPOS' Communication Formats

178. In ¶¶ 174-175, Mr. Zatkovich relies on a statement in a requirements document allegedly showing that Ingenico specified the use of BBPOS formats 11 and 29. There is no evidence that these requirements were ever implemented. In any case, the formats themselves were readily ascertainable simply by examining communications between an mPOS reader and a mobile phone and thus cannot be trade secrets.

E. Ingenico's use of BBPOS Data Security / Encryption Methods (DUKPT data method)

179. In ¶¶ 176-179, Mr. Zatkovich points to three paragraphs of requirements documents specifying that "BBPOS encryption" should be used. There is no evidence, however, that any product was ever built satisfying that requirement, and Mr. Zatkovich's experiments

with Ingenico products did not reveal any use of the “Data DUKPT” method developed by BBPOS.

180. In ¶ 177, Mr. Zatkovich says that “Ingenico utilized this information in their product designs,” but he cites no evidence in support except three sentences in requirements documents.

XI. SUMMARY OF MR. ZATKOVICH’S OPINIONS

181. In ¶¶ 180-192, Mr. Zatkovich summarizes his opinions, essentially repeating material that appeared previously in his report and which is therefore rebutted above.

182. In ¶ 181, he says, without any supporting evidence or citation, that “[n]o one else, either within the industry or outside the industry, had developed or would be likely develop these specific proprietary functions without the benefit of confidential information obtained from BBPOS.” There is no indication that Mr. Zatkovich investigated what other competitors were doing or which mPOS products performed the same functions as those alleged to be trade secrets in support of his sweeping conclusions.

183. In ¶¶ 182-183, Mr. Zatkovich refers again to BBPOS’ supposed polarity circuit trade secret. However, I showed above in ¶¶ 80-88 that the design was not a trade secret and in ¶¶ 166-171 that it was not used by Ingenico.

184. In ¶¶ 184-186, Mr. Zatkovich discusses supposed use by Ingenico of BBPOS’ power management designs. However, I showed above in ¶¶ 92-107 that these designs were not trade secrets and in ¶¶ 172-176 that they were not used by Ingenico.

185. In ¶ 187, Mr. Zatkovich refers to “Communication Interface formats that BBPOS painstakingly worked through by testing.” He does not indicate in what way working out simple record format was “painstaking.” I showed in ¶¶ 117-124 that the formats were not trade secrets and in ¶ 169 that there is no evidence that they were used by Ingenico.

186. In ¶ 188, discussing DUKPT, Mr. Zatkovich only points to the same requirements documents that he used in ¶ 143, which I discussed above in ¶ 125-129.

187. In ¶ 191, Mr. Zatkovich offers the incredible opinion that, “[b]ased on my analysis, it is my opinion that no matter how much effort and capital Ingenico invested, they could not have produced their product within that time period without the use of BBPOS’ Proprietary information.” He offers no basis at all for that conclusion, which would require investigating Ingenico’s prior state of knowledge, its prior developments, its available resources, development times of competitors, and publicly available materials. He performed none of those essential investigations. His claim is particularly outlandish given that BBPOS had approximately 10 developers and Ingenico had over 300.

188. Paragraph 192 contains a table summarizing Mr. Zatkovich’s opinions. Each row is incorrect at least because each row identifies as a trade secret material that was not a trade secret.

XII. CONCLUSIONS

189. Mr. Zatkovich has not shown that any of the alleged trade secrets were actually trade secrets.

190. The alleged trade secrets were not trade secrets,

191. Mr. Zatkovich has not shown that any of the alleged trade secrets was not readily ascertainable by proper means.

192. The alleged trade secrets were readily ascertainable by proper means.

193. Mr. Zatkovich has not shown that any disclosure of the alleged trade secrets to parties in privity with Defendants was made under obligation of confidence, except for eight documents bearing confidentiality markings but did not contain trade secrets.

194. Mr. Zatkovich has not shown that any disclosure of the alleged trade secrets to parties in privity with Defendants contained any indication that any such disclosure was confidential.

195. Mr. Zatkovich has not shown that any of the alleged trade secrets has been misappropriated by any Defendant

196. Mr. Zatkovich has adduced evidence that the claims against Defendants were not brought within any applicable statute of limitations period.

Executed March 18, 2022 at Oakland, California.


Michael I. Shamos

Exhibit A

Resume of Michael Ian Shamos

Current to March 4, 2022

Education

A.B. (1968) [Princeton University](#) ([Physics](#)). Thesis: "Gravitational Radiation Reaction." Advisor: [John A. Wheeler](#).

M.A. (1970) [Vassar College](#) ([Physics](#)). Thesis: "[An Absorber Theory of Acoustical Radiation](#)." Advisor: Morton A. Tavel.

M.S. (1972) [American University](#) (Technology of Management).

M.S. (1973) [Yale University](#) ([Computer Science](#)).

M.Phil. (1974) [Yale University](#) ([Computer Science](#)).

Ph.D. (1978) [Yale University](#) ([Computer Science](#)). Thesis: "[Computational Geometry](#)". Thesis committee: [David Dobkin](#), [Martin H. Schultz](#), [Stanley C. Eisenstat](#).

J.D. (1981) [Duquesne University](#), *cum laude*.

Foreign Languages

French, Russian (good reading and technical translation skills, fair conversational ability).

Academic Experience

Distinguished Career Professor, [Institute for Software Research](#) and [Language Technologies Institute](#), [School of Computer Science](#), [Carnegie Mellon University](#) (2001-)

Principal Systems Scientist (1998-2001)

Principal Lecturer (2002-2003). Teaching Professor (2003-)

Faculty, [Tepper School of Business](#), Carnegie Mellon University (1999-2004).

Co-Director, Carnegie Mellon Institute for eCommerce (1998-2004)

Vice-Chair, University Research Council (2000-2002)

Director, [eBusiness Technology](#) degree program, Carnegie Mellon (2003-2018)

Director, [M.S. in Artificial Intelligence and Innovation](#), Carnegie Mellon (2018-)

Affiliated Faculty, CMU [Center for Informed Democracy and Social-cybersecurity](#) (2021-)

Core faculty, [Privacy Engineering](#) degree program (2013-)

Director, [Universal Library](#), Carnegie Mellon University (1998-)

Visiting Professor, [Faculty of Engineering](#), [The University of Hong Kong](#) (2001-2021)

Adjunct Faculty, Carnegie Mellon University, Department of Computer Science (1981-1998)

Assistant Professor, Carnegie Mellon University, Departments of Computer Science and [Mathematics](#) (1975-81), Dept. of [Statistics](#) (1978-81).

Courses taught (Carnegie Mellon):

Algorithm Design and Analysis 15-451 (Comp. Sci.)

Intellectual Capital and its Protection 45-886 (MBA)

[Ecommerce Technology](#) 20-751 (MSEC program)

[Electronic Payment Systems](#) 20-753 (MSEC program), 96-774 (MSIT program)

[Ecommerce Law and Regulation](#) 46-840 (MSEC program)

[Electronic Voting](#) 17-803

Ubiquitous Computing, 96-761 (MSIT Program)

Electronic Payment Systems (MSIT Program)

[Law of Computer Technology](#), 17-762/17-662/17-562 (2007-)

Artificial Intelligence and Future Markets, 11-561 (2018-)

Honors and Awards

Fellow, [Society of the Sigma Xi](#) (1974-83).

IBM Fellowship, Yale University (1974-75).

[SIAM](#) National Lecturer (1977-78).

Distinguished Lecturer (computer science), [University of Rochester](#) (1978); [McGill University](#) (1979).

[Duquesne University Law Review](#) (1980-81).

Black & White Scotch Achiever's Award (first annual, 1991, for contributions to bagpipe musicography).

[Industry Service Award](#) of the [Billiard and Bowling Institute of America](#), 1996 (for contributions to billiard history).

Billiard Worldcup Association official referee (2001-)

Editorships

Editor-in-Chief, Journal of Privacy Technology (2003- 2006).

Member of Editorial Board, [Electronic Commerce Research Journal](#) (2000-).

Member of Editorial Board, [Pittsburgh Journal of Technology Law and Policy](#) (1999-2003).

Dr. Shamos has reviewed scientific papers for [*Communications of the ACM*](#), [*Mathematical Reviews*](#), [*IEEE Computer*](#), [*IEEE Transactions on Computers*](#), [*Information Processing Letters*](#), [*Journal of the ACM*](#) and the [*Journal of Computational Physics*](#).

Contributing Editor, [*Billiards Digest*](#) magazine (1990-).

Patents

Co-inventor with K. Srinivasan, U.S. Patent [7,330,839](#), "Method and System for Dynamic Pricing," issued February 12, 2008.

Co-inventor with K. Srinivasan, U.S. Patent [7,421,278](#), "Method and Apparatus for Time-Aware and Location-Aware Marketing," issued September 2, 2008.

Co-inventor with K. Srinivasan, U.S. Patent [7,747,465](#), "Determining the Effectiveness of Internet Advertising," issued June 29, 2010.

Co-inventor with K. Srinivasan, U.S. Patent [8,195,197](#), "Method and Apparatus for Time-Aware and Location-Aware Marketing," issued June 5, 2012.

Co-inventor with K. Srinivasan, U.S. Patent [8,280,773](#), "Method and Apparatus for Internet Customer Retention," issued October 2, 2012.

Co-inventor with K. Srinivasan, U.S. Patent [9,456,299](#), "Method and Apparatus for Time-Aware and Location-Aware Marketing," issued September 27, 2016.

Legal Experience

Special Counsel, [Reed Smith LLP](#) (2000-2003), electronic commerce law.

Shareholder, [The Webb Law Firm](#) (1996-2000), intellectual property law. Associate (1990-95).

Private practice of law (1987-90), intellectual property

Associate, law firm of [Buchanan, Ingersoll, P. C.](#) (1985-87)(now Buchanan Ingersoll & Rooney, PC), Emerging Companies Department.

General Counsel, Carnegie Group, Inc. (1983-85), artificial intelligence company.

Private practice of law (1981-83), computer law.

Bar Admissions

[Supreme Court of Pennsylvania](#) (1981-).

[United States District Court for the Western District of Pennsylvania](#) (1981–).

[United States Patent and Trademark Office](#) (1981–).

[United States Tax Court](#) (1982–).

[United States Court of Appeals for the Armed Forces](#) (1982–).

[United States Court of Appeals for the Third Circuit](#) (1982–).

[United States Supreme Court](#) (1985–).

[United States Court of Appeals for the Federal Circuit](#) (1985–).

Expert Witness

Dr. Shamos has served as an expert witness in multiple computer software and electronic voting cases. He has participated in the cases listed below. "D" indicates deposition testimony; "R" indicates report, declaration or affidavit; "T" indicates trial testimony.

Total: 324 cases, including 251 patent, 20 electronic voting, 17 trade secret, 14 copyright.

Affidavits, reports or declarations submitted in 228 cases.

Deposed in 149 cases.

Testified at trial or hearing in 46 cases.

Participated in 3 reexams, 7 PGRs, 77 IPRs and 22 CBMs.

1. *C.W. Communications, Inc. v. International Research Service, Inc.*, Civil Action No. 84-890, (W.D. Pa. 1984), aff'd. Case No. 88-3331 (3d Cir., Oct. 31, 1988). Served as an expert for plaintiff publisher as to the fame of its "Computerworld" trademark. Result: permanent injunction entered against defendant. Judge McCune's Memorandum and Order states. "We accept the conclusion drawn by Dr. Shamos." Firm: Webb, Burden Robinson & Webb (now the [Webb Law Firm](#)). (D,T)

2. *E.F. Hutton, Inc. v. Gipson* (W.D. Pa. 1985). Served as an expert for defendant-counterclaimant physician as to fraud in the inducement by a computer hardware supplier. Plaintiff had provided capital financing for the purchase. Result: defendant was awarded compensatory damages + \$250,000 punitive damages. (D,T)

3. *In re Comprehensive Business Systems*, [119 B.R. 573 \(S.D. Ohio 1990\)](#). Served as an expert for a secured creditor in a bankruptcy case in which the creditor sought to obtain software still in development for which it had advanced over \$2 million in funding. Dr. Shamos opined as to the value of the incomplete software. Result: the creditor was able to purchase the software from the Trustee for \$67,500. The Court referred in its [opinion](#) to "the testimony of the eminent and impressive Dr. Shamos." (D,R,T)

4. *Levinson Steel Co. v. American Software, Inc. et al.*, Civil Action No. 96-282, W.D. Pa. (1996). Served as an expert for plaintiff in a case involving bad faith estimates of computer processing capacity resulting in delivery of an inadequate system. Result: settlement in favor of plaintiff in an undisclosed amount. Contact: [Reed Smith LLP](#), 225 Fifth Ave., Pittsburgh, PA 15222. (D,R)
5. *ASE Limited v. INCO Alloys International, Inc.*, Civil Action No. 98-1266, (W.D. Pa. 1998). Served as an expert for defendant concerning breach of computer services contract by declaratory judgment plaintiff. Result: determination that defendant was free to seek services from a different vendor. Firm: [Reed Smith LLP](#), 225 Sixth Ave., Pittsburgh, PA 15222. Attorney: Anthony Basinski, Esq. (D,T)
6. *Twentieth Century Fox Film Corp. v. iCraveTV.*, 53 U.S.P.Q. 2d 1831 (W.D. Pa. 2000). Served as an expert for Plaintiffs concerning Internet technology used to stream video from U.S. TV stations through web sites in Canada. Result: TRO and preliminary injunction issued against defendants prohibiting continued infringement in the U.S. Firm: [Reed Smith LLP](#). Attorney: Gregory Jordan, Esq. (T)
7. Invited testimony before the British House of Lords, Subcommittee B of the European Union Committee, April 20, 2000. Subject: European regulation of eCommerce. View [testimony](#).
8. *Universal Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y. 2000), aff'd 273 F.3d 429 (2d Cir. 2001). Served as an expert for plaintiff movie studios concerning accused software for decrypting DVDs in the first case interpreting the Digital Millennium Copyright Act. Result: permanent injunction issued in favor of plaintiffs on August 17, 2000. Contact: [William Hart, Esq.](#), [Proskauer Rose LLP](#). View [testimony](#). View [opinion](#). View [appellate opinion](#). (D,T)
9. *MercExchange, L.L.C. v. eBay, Inc. et al.*, Case No. 2:01-CV-736 (E.D. Va. 2001). Served as an expert for defendant [eBay](#) in an infringement case concerning U.S. Patent [6,202,051](#) for Internet auctions. Following Dr. Shamos' reports, Defendants obtained a summary judgment of noninfringement of the subject patent. On the other patents, the case went to the U.S. Supreme Court, which ruled that injunctions are not automatic in patent cases. Contact: [Tim Teter, Esq.](#), [Cooley LLP](#). (D,R)
10. *PowerQuest Corp. v. Quarterdeck Corp. et al.*, Case No. 2:97-CV-0783 (D. Utah 1997). Served as an expert for plaintiff [PowerQuest](#) in an infringement case concerning U. S. Patents [5,675,769](#) and [5,706,472](#) for a method of resizing hard disk partitions. Dr. Shamos testified at the Markman hearing. Case settled when one of the defendants acquired plaintiff. Attorney: [Gregg I. Anderson](#), Esq., formerly at Merchant & Gould, now an Administrative Patent Judge at the Patent Trial and Appeal Board. (R,T)
11. *Sightsound.Com Inc. v. N2K Inc. et al.*, C.A. 98-118 (W.D. Pa. 1998). Served as an expert for defendants, including a subsidiary of Bertelsmann AG, concerning validity of U.S. Patents [5,191,573](#) and [5,966,440](#) for distribution of digital audio via telecommunications lines. Case

settled. Firm: Parcher, Hayes & Snyder, (no longer in existence). Contact: [Steven M. Hayes, Esq.](#), [Simmons Hanley Conroy, LLC](#), 112 Madison Ave., New York, NY 10016. (D,R)

12. *Freemarkets, Inc. v. B2eMarkets, Inc.*, C.A. 02-162-SLR (D. Del. 2002). Served as an expert witness for plaintiff concerning infringement of U.S. patents [6,216,114](#) and [6,223,167](#), concerning methods of conducting electronic auctions. Case settled two weeks after expert attended a demonstration of the accused product. Contact: [D. Michael Underhill, Esq.](#), [Boies, Schiller & Flexner, LLP](#), Washington, DC.

13. *Lifecast.com, Inc. v. ClubCorp, Inc.*, AAA Case No. 71Y1170076301 (Dallas, TX). Served as an expert witness for respondent in a case alleging copyright infringement of Internet websites. Testified at arbitration. Result: Complainant's claims denied; award for respondent on counterclaims and for attorney's fees. Contact: [Bill Whitehill, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. (T)

14. *IP Innovation LLC v. Thomson Learning, Inc. et al.*, Case H-02-2031 (S.D. Tex. 2002). Served as an expert for defendant The Princeton Review, Inc. concerning alleged infringement of U.S. Patent [4,877,404](#) relating to online delivery of educational courses. Summary judgment of non-infringement obtained for defendant after favorable Markman proceeding. Contact: [Peter Vogel, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. (R)

15. *Starpay.com LLC et al. v. Visa International Service Association et al.*, Case 3-03-CV-976-L (N.D. Tex. 2003). Served as an expert for defendant Visa concerning alleged infringement of U.S. Patent [5,903,878](#) relating to online authentication of credit card customers. Dr. Shamos provided the court with a Markman tutorial in 2004 and a non-infringement and invalidity declaration in 2008. Case settled in February 2008. Contact: [Stanley Young, Esq.](#), [Covington & Burling LLP](#), 333 Twin Dolphin Drive, Suite 700, Redwood Shores, CA 94065. (D,R,T)

16. *Safeclick LLC v. Visa International Service Association et al.*, Case C-03-5865 (N.D. Cal. 2003). Served as an expert for defendant Visa concerning alleged infringement of U.S. Patent [5,793,028](#) relating to online authentication of credit card customers. Summary judgment of noninfringement granted for Visa based on expert reports, affirmed after appeal to the Federal Circuit. Contact: [Stanley Young, Esq.](#), [Covington & Burling LLP](#), 333 Twin Dolphin Drive, Suite 700, Redwood Shores, CA 94065. (D,R)

17. *Wells Fargo Bank Minnesota, NA et al. v. UBS Warburg Real Estate Securities, Inc.*, Case 02-2849 (192d Judicial District, Dallas Cty., Tex, 2002) and *LaSalle Bank, NA et al. v. UBS Warburg Real Estate Securities, Inc.*, Case 02-2899-G (134th Judicial District, Dallas Cty., Tex, 2002). Served as an expert for defendant UBS Warburg in an electronic discovery matter involving a case of first impression regarding Texas Discovery Rule 196.4 allocating costs of discovery of electronic records. Firm: [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. Contact: [Dawn Estes, Esq.](#), [Taber, Estes Okon Thorne & Carr PLLC](#), 3811 Turtle Creek Blvd., Suite 2000, Dallas, TX 75219. (D, R)

18. *American Association of People with Disabilities et al. v. Shelley et al.*, Case No. CV04-1526 FMC (PJWx) (C. D. Calif., 2004). Served as an expert for plaintiff AAPD, which has brought a claim against the California Secretary of State that requiring DRE voting machines to be equipped with audit trails violates the rights of disabled persons. Plaintiffs' application for TRO and preliminary injunction denied. Firm: Howrey LLP, (no longer in existence). Attorney John E. McDermott is now a Magistrate Judge in the Central District of California. (R)

19. *Paul Ware v. Target Corp.*, CA 4:03-CV-0243-HLM (N.D. Ga., 2003). Served as an expert for defendant Target Corp., a large retailer, in a case involving U.S. patent [4,707,592](#), claiming a method of conducting credit card sales. Case settled during Markman preparations. Contact: [Thomas P. Burke, Esq.](#), [Ropes & Gray LLP](#), 1211 Ave. of the Americas, New York, NY 10036.

20. *Viad Corp., v. C. Alan Cordial et al.*, No. 03-1408 (W.D. Pa., filed 2003). Served as an expert for defendants in an action alleging misappropriation of trade secrets relating to software for automating certain aspects of the exhibit booth and trade show industries. Status: case settled immediately before trial, after plaintiff's unsuccessful Daubert challenge of Dr. Shamos. Contact: [Barbara Scheib, Esq.](#), [Cohen & Grigsby, P.C.](#), 11 Stanwix Street, Pittsburgh, PA 15222. (D,R,T)

21. *Schade et al. v. Maryland State Bd. of Elections et al.*, Case No. Co497297 (Cir. Ct. Anne Arundel Cty. Md., 2004). Served as an expert for defendants in a case challenging the decision of the Board of Elections not to decertify Diebold AccuVote system. Result: Plaintiff's motion for preliminary injunction denied, upheld on appeal. Judge Manck's [opinion](#) cites Dr. Shamos' testimony as follows: "the court finds Dr. Shamos, Defendants' expert, to be the true voice of reason and the most credible expert in this matter." The denial of preliminary injunction was upheld by the Maryland Court of Appeals, which commented extensively on Dr. Shamos' testimony in its [opinion](#). Contact: [Michael Berman, Esq.](#), (formerly Maryland Deputy Attorney General), [Rifkin, Weiner, Livingston, Levitan & Silver, LLC](#). (R,T)

22. *Wexler et al. v. Lepore et al.*, Case No. 04-80216 (CIV-COHN) (S.D. Fla. 2004) . Served as an expert for defendants, various Florida election supervisors against claim by U.S. Congressman Robert Wexler that use of DRE voting machines without paper audit trails violates the equal protection clause of the U.S. Constitution. Dr. Shamos testified on Oct. 19, 2004. The trial judge rendered [judgment](#) in favor of defendants on Oct. 25. Contact: [Jason Vail, Esq.](#), then Assistant Attorney General, Department of Legal Affairs, The Capitol, Tallahassee, FL, now at [Allen Norton & Blue, PA](#). [Opinion](#). (T)

23. *Siemens Information and Communication Networks, Inc. v. Inter-Commercial Business Systems, Inc.*, Civil Action 3-03CV2171-L (N.D. Tex. 2004). Served as an expert for defendant against claim of copyright infringement based on reverse-engineered firmware resident in telephone switching systems. Status: case settled shortly after the submission of Dr. Shamos' rebuttal report on non-infringement. Contact: [Bill Whitehill, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. (R)

24. *Soverain Software LLC v. Amazon.com, Inc.*, C.A. No. 6:04-CV-14 (E.D. Tex. 2004). Served as an expert for plaintiff regarding asserted patents [5,708,780](#), [5,715,314](#) and [5,909,492](#),

relating to the shopping cart paradigm of electronic commerce. Status: settled in Sept. 2005 with Amazon paying \$40 million to Sovereign and taking a license under the patents in suit. Contact: [Ognian Shentov, Esq.](#), [Jones Day](#), 222 E. 41st St., New York, NY 10017. (D,R)

25. *CollegeNET, Inc. v. The Princeton Review, Inc.*, Case '051205KI (D. Ore. 2005). Served as an expert for defendant The Princeton Review, Inc. concerning alleged infringement of U.S. Patent [6,460,042](#) relating to online delivery of educational courses. Case settled in December 2007. Contact: [Peter Vogel, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. (R)

26. *CombineNet, Inc. v. VerticalNet, Inc.*, GD 05-018911 (Ct. Common Pleas, Allegheny Cty., PA). Served as an expert for plaintiff in an action for trade secret misappropriation relating to a system for conducting electronic auctions. Plaintiff won in arbitration. Contact: [Mark Knedeisen, Esq.](#), [K&L Gates LLP](#), 210 Sixth Avenue, Pittsburgh, PA 15222-2613. (T)

27. *RealSource, Inc. v. Best Buy Co., Inc. et al.*, No. A04-CA-771-LY (W.D. Tex.). Served as an expert for defendant Lowe's Companies, Inc., against a claim of infringement of U.S. patent [5,732,136](#) relating to validation of point-of-sale debit card transactions. Provided a tutorial to the Court during Markman proceedings concerning debit card technology. Defendants won summary judgment of non-infringement, affirmed by the Federal Circuit. Defendants Lowe's settled and was not involved in the appeal. Contact: [Michael S. Connor, Esq.](#), [Alston & Bird LLP](#), Bank of America Plaza, 101 South Tryon St, Suite 4000, Charlotte, NC 28280-4000. (R,T)

28. *DE Technologies, Inc. v. Dell, Inc. et al.*, No. 7:04-CV-00628 (W.D. Va.). Served as an expert for plaintiff DE Technologies, Inc., asserting a claim of infringement of U.S. patents [6,460,020](#) and [6,845,364](#), relating to a system for implementing international sales transactions. Case settled after and adverse summary judgment. However, the Court used Dr. Shamos' testimony in its [opinion](#). Contact: [David Marder, Esq.](#), [Robins Kaplan Miller & Ciresi LLP](#), 800 Boylston Street, 25th Floor, Boston, MA 02199. (D,R,T)

29. *Eaton Power Quality Corp. v. J.T. Packard & Associates*, No. 05 C 3545 (N.D. Ill. 2005). Served as expert for plaintiff in a claim of software copyright infringement involving a system for configuring industrial uninterruptible power supplies. Case settled in early 2007. Firm: [Dewey & LeBoeuf](#). Contact: [Keith P. Schoeneberger, Esq.](#), [Pasulka & Associates PC](#). (D,R)

30. *Taylor et al. v. Onorato et al.*, CA 06-481 (W.D. Pa 2006). Served as an expert for Commonwealth of Pennsylvania defendants in an action seeking to enjoin the use of electronic voting machines in Allegheny County, PA. Dr. Shamos testified at length in a preliminary injunction hearing held April 25-27, 2006 before Judge Lancaster. The injunction was denied on April 28. Suit was subsequently dropped by plaintiffs. Contact: [Mark Aronchick, Esq.](#), [Hangley Aronchick Segal Pudlin & Schiller](#), One Logan Square, 18th & Cherry Streets, 27th Floor, Philadelphia, PA 19103. (T)

31. *FedEx Ground Package System, Inc. v. Applications International Corp.*, CA No. 03-1512 (W.D. Pa.). Served as an expert for defendant counterclaiming for copyright infringement and

trade secret misappropriation relating to software for maintaining occupational health and safety records. Dr. Shamos's testimony was [excluded](#) because he was unable to perform a side-by-side comparison of the original and accused works. Case has settled. Contact: [Ronald Hicks, Esq., Meyer, Unkovic & Scott LLP](#), 1300 Oliver Bldg., Pittsburgh, PA 15222. (D,R)

32. *NetMoneyIN, Inc. v. Verisign, Inc. et al.*, Cv-01-441-TUC-RCC (D. Ariz.). Served as an expert for defendants Bank of America Merchant Services, Inc. and Wells Fargo Bank, N.A., who are accused of infringing claim 23 of U.S. patent [5,822,737](#), relating to an electronic payment system. Wells Fargo and Bank of America have settled. Contact: [K&L Gates LLP](#), State Street Financial Center, One Lincoln Street, Boston, Massachusetts 02111-2950. (D,R)

33. *Contois Music Technology, LLC v. Apple Computer, Inc.*, 2:05-CV-163 (D. Vermont, filed Feb. 13, 2006). Served as an expert for plaintiff in an action alleging that the Apple iTunes software infringed U.S. patent [5,864,868](#), relating to a method for selecting music from an electronic catalog. Case settled after a favorable Markman order. Contact: [John Rabena, Esq., Sughrue Mion PLLC](#), 2100 Pennsylvania Avenue, NW, Suite 800, Washington, DC 20037-3213.

34. *Banfield et al. v. Cortés*, 442 MD 2006 (PA Cmwlth. Ct.). Served as an expert for defendant Secretary of the Commonwealth of Pennsylvania in an action to compel the decertification of all electronic voting machines in Pennsylvania. In February 2008 Defendant successfully repelled an emergency motion for preliminary injunction. In August 2012, the [Court denied Petitioners' motion](#) for summary judgment, citing Dr. Shamos's expert report extensively. In October 2013, the Commonwealth Court granted summary judgment for the Secretary. The Pennsylvania Supreme Court [affirmed](#) on February 18, 2015. Contact: [Steven E. Bizar, Esq., Buchanan Ingersoll & Rooney PC](#), Two Liberty Place, 50 S. 16th St., Philadelphia, PA 19102-2555. (D,R)

35. *Remote Inventory Systems, Inc. v. WESCO Distribution, Inc.*, AAA Case No. 55 171 00493 05 (Pittsburgh, PA). Served as an expert for respondent in a case alleging misappropriation of trade secrets in a computerized inventory system. Contact: [Kirsten Rydstrom, Esq., Reed Smith LLP](#), 225 Fifth Ave., Pittsburgh, PA 15222. (D,R)

36. *SyncSort, Inc. v. Innovative Routines International, Inc.*, Civil Action No. 04-3623 (WHW) (D. New Jersey). Served as an expert witness for defendant in an action alleging misappropriation of trade secrets embodied in plaintiff's Unix sorting software. Dr. Shamos testified at a bench trial in January 2011. Case settled after an appeal to the Third Circuit was filed. Contact: [David R. Fine, Esq., K&L Gates LLP](#), 17 N. Second Street, 18th Floor, Harrisburg, PA 17101-1507. (D,R,T)

37. *Digital Impact, Inc. v. Bigfoot Interactive, Inc.*, Civil Action C05 00636 (CW) (N.D. Cal.). Served as an expert witness for defendant in an action alleging infringement of U.S. Patent [6,449,634](#), relating to determining which file formats can be processed by an email client. Result: defendant obtained summary judgment of non-infringement, upheld by the Federal Circuit. Contact: [Arthur Dresner, Esq., Duane Morris LLP](#), 1540 Broadway, New York, NY 10036. (D,R)

38. *Prism Technologies LLC v. Verisign, Inc. et al.*, CA 05-214-JJF (D. Del.). Served as an expert for plaintiff in an action alleging infringement of U.S. Patent [6,516,416](#), relating to use of a hardware key for authentication over networks. Defendants prevailed on summary judgment of non-infringement, which was upheld on appeal. Firm: [Robins Kaplan Miller & Ciresi LLP](#). Contact: [Dirk D. Thomas, Esq.](#), [McKool Smith](#), 1999 K Street, N.W., Suite 600, Washington, DC 20006. (R)

39. *AdvanceMe, Inc. v. RapidPay LLC et al.*, Civil Action 6:05-cv-424 LED (E.D. Tex., Tyler Division). Served as an expert witness for plaintiff in an action alleging infringement of U.S. Patent [6,941,281](#), relating to an automated payment system for dividing credit card proceeds between a merchant and another party. Testified at a bench trial in July 2007 before Judge Davis, who held the patent infringed but invalid for obviousness. Firm: [Paul, Hastings LLP](#), Five Palo Alto Sq., Palo Alto, CA 94306. Contact: [Ronald S. Lemieux, Esq.](#), [Singularity LLP](#), 275 Shoreline Drive, Redwood Shores, CA 94065. (D,R,T)

40. *IBM Corp. v. Amazon.com, Inc.*, CA 9:06-CV-242-RHC (E.D. Tex., Lufkin Div.) and *IBM Corp. v. Amazon.com, Inc.*, CA 6:06-CV-452-LED (E.D. Tex., Marshall Div.). Served as an expert for IBM in related actions alleging infringement of U.S. Patents [5,319,542](#), [5,442,771](#), [5,446,891](#), [5,796,967](#) and [7,072,849](#), all concerning methods of conducting electronic transactions, and a counterclaim for infringement of U.S. Patent [5,826,258](#), concerning a method for querying semistructured data. Case settled early in discovery when the parties cross-licensed each other's patents. Contact: [Mark J. Ziegelbein, Esq.](#), [Dentons US LLP](#), 2000 McKinney Ave., Suite 1900, Dallas, TX 75201-1858.

41. *The MathWorks, Inc. v. COMSOL AB et al.*, CA 6:06-CV-334 (E.D. Tex., Tyler Division). Served as an expert for plaintiff The MathWorks, providers of the mathematical software system MATLAB, in an action alleging copyright infringement and infringement of U.S. Patents [7,051,338](#) and [7,181,745](#) concerning methods for invoking object methods from external environments. After trial, the case settled with defendant admitting infringement, paying \$12,000,000 in damages and waiving appeal rights. Contact: [Krista Schwartz, Esq.](#), [Jones Day](#), 77 W. Wacker Dr., Chicago, IL 60601-1692.

42. *Avante Int'l. Technology Corp. v. Diebold Election Systems et al.*, Case 4:06-CV-0978 TCM (E.D. Mo., Eastern Division). Served as an expert for defendants Sequoia Voting Systems and Premier Election Systems in an action alleging infringement of U.S. Patents [6,892,944](#), [7,036,730](#) and [7,077,313](#) concerning electronic voting technology. Dr. Shamos testified at a 5-day trial in February 2009. Result: The jury found Plaintiff's asserted claims invalid as anticipated and obvious. Contact: [Peter T. Ewald, Esq.](#), [Oliff & Berridge, PLC](#), 277 South Washington Street, Suite 500, Alexandria, VA 22314. (D,R,T)

43. *Netcraft Corp. v. eBay, Inc. and PayPal, Inc.*, Case 3:07-cv:00254-bbc (W.D. Wisc. 2007). Served as an expert for defendants in an action alleging infringement of U.S. Patents [6,351,739](#) and [6,976,008](#) concerning methods of billing for ecommerce transactions over the Internet. Defendants were granted summary judgment of non-infringement on Dec. 10, 2007, upheld on appeal. Firm: [Irell & Manella LLP](#), 180 Avenue of the Stars, Los Angeles, CA

90067. Contact: [Kenneth Weatherwax, Esq.](#), [Goldberg, Lowenstein & Weatherwax LLP](#), 1925 Century Park East, Suite 2120, Los Angeles, CA 90067.

44. *ACLU of Ohio et al. v. Brunner et al.*, Case 1:09 CV 0145 (N.D. Ohio 2008). Served as an expert witness in an action alleging that the use of central count optical scan voting should not be permitted in Cuyahoga County, as had been ordered by the county board of elections. A preliminary injunction was denied in February 2008. The case became moot and was dismissed in May 2008 when the Ohio Legislature granted by statute the relief requested by plaintiff, prohibiting the use of central count opscan in Cuyahoga County. Contact: Meredith Bell-Platts, Esq., [ACLU Voting Rights Project](#), 2600 Marquis One Tower, Atlanta, GA 30303. (R)

45. *Ariba, Inc. v. Emptoris, Inc.*, Civil Action 9:07-CV-90-RHC (E.D. Tex. 2007). Served as an expert for Ariba in an action alleging infringement of U.S. Patents [6,216,114](#) and [6,499,018](#), relating to the conduct of electronic auctions. Dr. Shamos testified in a jury trial on infringement and validity. Result: verdict finding all asserted claims valid and willfully infringed. Contact: [Robert Fram, Esq.](#), [Covington & Burling LLP](#), One Front St., San Francisco, CA 94111. (D,R,T)

46. *EpicRealm Licensing, LP v. Autoflex Leasing Inc. et al.*, CA 5:07-CV-125 (E.D. Tex. 2005). Served as an expert for defendant Herbalife International of America, Inc. in an action alleging infringement of U.S. patents [5,894,554](#) and [6,415,335](#), relating to a system for managing generation of dynamic Internet web pages. All original defendants settled. See also the Oracle case below. Contact: [Ognian Shentov, Esq.](#), [Jones Day](#), 222 E. 41st St., New York, NY 10017. Also served as an expert for defendant FriendFinder in a separate trial in this action. After a jury trial before Judge Folsom, the patents were found valid and infringed, but the jury awarded only \$1.1M, the smallest amount testified to by defendant's damages expert. Contact: [Michael J. Sacksteder, Esq.](#), [Fenwick & West LLP](#), 555 California St., San Francisco, CA 94104. (D,R,T)

47. *Oracle Corporation v. EpicRealm Licensing, LP*, CA 2-06-414 (D. Del. 2006), later *Oracle Corporation v. Parallel Networks, LLC*. Served as an expert for Oracle in a declaratory judgment alleging invalidity of U.S. patents [5,894,554](#) and [6,415,335](#), relating to a system for managing generation of dynamic Internet web pages. The patents are the same as those in the EpicRealm case, above. Oracle obtained summary judgment of non-infringement, reversed on appeal to the Federal Circuit. Case settled in May 2011 on the eve of trial. Firm: [Kilpatrick Townsend & Stockton, LLP](#), 379 Lytton Ave., Palo Alto, CA 94301. Contact: [Theodore T. Herhold](#), [Singularity LLP](#), 275 Shoreline Drive, Redwood Shores, CA 94065. (D,R)

48. *Saulic v. Symantec Corporation et al.*, Case No. SA CV 07-610 AHS (C.D. Cal., Santa Ana Division, 2007). Served as an expert for defendant Symantec in a removal action alleging violation of California Civil Code §1747.8, relating to the collection of personal identification information in connection with credit card transactions. Case settled. Original firm: Heller Ehrman. Contact: [Chad R. Fuller, Esq.](#), [Troutman Sanders LLP](#), 11682 El Camino Real, Suite 400, San Diego, CA 92121. (R)

49. *Gusciora et al. v. McGreevey et al.* (now *Gusciora v. Christie*), Docket No. MER-L-2691-04 (N.J. Super., Mercer County). Served as an expert for defendants, including the Governor and Attorney General of New Jersey, in a case alleging that the state's AVC Advantage voting machines are unconstitutionally insecure. A bench trial was held from January-May, 2009 before Judge Linda Feinberg. The Court's [opinion](#) adopts Dr. Shamos' testimony and comments on it extensively. Affirmed on appeal in October 2013. Contact: Leslie Gore, Esq., Asst. Atty. Gen'l., 25 Market Street, P.O. Box 112, Trenton, NJ 08625. (D,R,T)

50. *R.R. Donnelley & Sons Company v. Quark, Inc. et al.*, C.A. No. 06-00032-JJF (D. Del.). Served as an expert for plaintiff R.R. Donnelley in a case alleging infringement of U.S. Patents [6,205,452](#), [6,327,599](#), [6,844,940](#) and [6,952,801](#), relating to book assembly, imposition of graphics and control of electronic presses. Case has settled. Contact: [Stuart W. Yothers, Esq.](#), [Ropes & Gray LLP](#), 1251 Avenue of the Americas, New York, NY 10020.

51. *MOAEC, Inc. v. Pandora Media, Inc. et al.*, Case No. 07-cv-654-bbc (W.D. Wisc.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [5,969,283](#), [6,232,539](#), [6,953,886](#) and [7,205,471](#), relating to systems for organizing and retrieving digital music. Two defendants obtained summary judgment of noninfringement; the remaining defendant settled. Contact: [Joshua Krumholz, Esq.](#), [Holland & Knight, LLP](#), 10 St. James Avenue, 11th Floor, Boston, MA 02116. (D,R)

52. *Web.com, Inc. v. The Go Daddy Group, Inc.*, Case No. CV07-01552-PHX-MHM (D. Ariz.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,654,804](#), [6,789,103](#), [6,842,769](#) and [6,868,444](#), relating to methods for managing configuration of web servers and provision of Internet services. Case has settled. Firm: [Wilson Sonsini Goodrich & Rosati](#), 650 Page Mill Road, Palo Alto, CA 94304. Contact: [Richard G. Frenkel, Esq.](#), [Latham & Watkins LLP](#), 140 Scott Drive, Menlo Park, CA 94025.

53. *Hummel et al. v. Dynacraft BSC, Inc. et al.*, Case No. CV 052214 (Cal. Super. Marin Cty.). Served as an expert for defendants in an action alleging breach of contract for web hosting services. Dr. Shamos provided four hours of trial testimony. Result: verdict for the defense. Contact: [Joe B. Harrison, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Suite 3000, Dallas, TX 75201. (T)

54. *Tegg Corp. v. Beckstrom Electric Co. et al.*, Civil Action No. 2:08-CV-00435-NBF (W.D. Pa.). Served as an expert for defendants in a case alleging infringement of copyright in computer software for administering field maintenance of electrical equipment. Case has settled. Original firm: [Reed Smith LLP](#). Contact: [Richard D. Kelley, Esq.](#), [Bean Kinney & Korman](#), 2300 Wilson Blvd., Suite 700, Arlington, VA 22220.

55. *Cordance Corporation v. Amazon.com, Inc.*, Civil Action No. 06-491-MPT (D. Del.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [5,862,525](#), [6,088,717](#) and [6,757,710](#), relating to an infrastructure for conducting online transactions. In August 2009 a jury found the '717 patent valid but not infringed and the '710 patent infringed but invalid. The finding of invalidity of the '710 patent was vacated by the Court on judgment as a matter of law. The Federal Circuit reversed and reinstated the jury's finding. Contact: [Robert](#)

[M. Abrahamsen, Esq.](#), [Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210. (D,R, T)

56. *Anthurium Solutions, Inc. v. MedQuist, Inc. et al.*, Case No. 2:07-vcv-484 (DF/CE) (E.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [7,031,998](#), relating to a distributed workflow system. Case settled ten days after responsive expert reports were served. Contact: [Joshua Krumholz, Esq.](#), [Holland & Knight, LLP](#), 10 St. James Avenue, 11th Floor, Boston, MA 02116. (R)

57. *Performance Pricing, Inc. v. Google, Inc. et al.*, Case No. 2:07-cv-432(LED) (E.D. Tex.). Served as an expert for defendant Yahoo! in a case alleging infringement of U.S. Patent [6,978,253](#), relating to determining prices for items sold online. Case has settled as to defendant Yahoo!. Contact: [Michael A. Jacobs, Esq.](#), [Morrison & Foerster LLP](#), 425 Market Street, San Francisco, CA 94105. Also served as an expert for remaining defendants Google and AOL. In March 2010 the Court granted defendants' motion for summary judgment of noninfringement, affirmed by the Federal Circuit. Contact: [David A. Perlson, Esq.](#), [Quinn Emanuel Urquhart & Sullivan, LLP](#), 50 California Street, San Francisco, CA 94111. (D,R)

58. *Nationwide Power Solutions, Inc. et al., v. Eaton Electrical Inc.*, Case No. CV-8:07-0883-JVS (C.D. Cal.). Served as an expert for defendant/counterclaimant Eaton in a case alleging antitrust violations by Eaton arising out of proprietary servicing software in its uninterruptible power supplies. Case has settled. Contact: [James L. Day, Esq.](#), [Latham & Watkins LLP](#), 505 Montgomery Street, Suite 2000 San Francisco, CA 94111.

59. *CBS Interactive, Inc. v. Etilize, Inc.*, Case No. C -6-05378 (MHP) (N.D. Cal.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [6,714,933](#) and [7,082,426](#), relating to web crawling technology to aggregate product information. Defendant consented to an injunction against further infringement and the case settled. Firm: [Winston & Strawn, LLP](#), 101 California Street, San Francisco, CA 94111. Contact: [Glenn E. Westreich, Esq.](#), [Hayes and Boone, LLP](#), 2033 Gateway Place, San Jose, CA 95110.

60. *Geographic Services, Inc. v. Anthony Collelo*, Case 2008-9961 (Fairfax Cty., Va.). Served as an expert for plaintiff in a case alleging misappropriation of trade secrets involving determining and proofing geographic names as applied to maps and satellite imagery. Case was dismissed by Judge Ney on technical legal grounds at the close of Plaintiff's case. The Virginia Supreme Court [reversed](#) and remanded the case for further proceedings. Case has settled. Contact: [Mark W. Wasserman, Esq.](#), [Reed Smith LLP](#), 3110 Fairview Park Drive, Suite 1400, Falls Church, VA 22042. (D,R,T)

61. *ODS Technologies, LP v. Magna Entertainment Corp., et al.*, CV 07-03265 DDP (D. Del.). Served as an expert for defendants in a case alleging infringement of U.S. Patents [5,830,068](#), [6,004,211](#), [6,089,981](#), [6,554,709](#) and [7,229,354](#), relating to off-track wagering systems and methods for restricting wagering based on location. Dr. Shamos submitted a declaration in support of summary judgment. Case settled before expert reports were

due. Contact: [Virginia DeMarchi, Esq., Fenwick & West, LLP](#), 801 California Street, Mountain View, CA 94041. (R)

62. *Gannett Satellite Information Network, Inc. v. Office Media Network, Inc.*, C.A. No. 08-96-GMS (D.Del.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,288,688](#), [6,622,826](#), [6,981,576](#) and [7,270,219](#), relating to display of advertising information on screens in elevators. Case settled shortly after Dr. Shamos's deposition. Contact: [Steven R. Trybus, Esq., Jenner & Block LLP](#), 353 N. Clark St., Chicago, IL 60654. (D,R)

63. *Avante Int'l. Technology Corp. v. Premier Election Solutions et al.*, Case 4:06-CV-091367-ERW (E.D. Mo., Eastern Division). Served as an expert for defendants Sequoia Voting Systems and Premier Election Systems in an action alleging infringement of U.S. Patents [7,422,150](#), and [7,431,209](#) concerning electronic voting technology. Case settled in December 2009. Contact: [Peter T. Ewald, Esq., Oliff & Berridge, PLC](#), 277 South Washington Street, Suite 500, Alexandria, VA 22314. (R)

64. *Accenture Global Services GmbH et al. v. Guidewire Software, Inc.*, Civ. No. 07-826-SLR (D. Del.). Served as an expert for Accenture in a case alleging misappropriation of trade secrets and infringement of U.S. Patents [7,013,284](#) and [7,017,111](#), relating to automated insurance claim handling. The District Court found the asserted system claims invalid under 35 U.S.C. §101, affirmed by the Federal Circuit at 2011-1486. Case settled in Oct. 2011. Original firm: Morrison & Foerster, LLP. Contact: [L. Scott Oliver, Esq., K&L Gates LLP](#), 630 Hansen Way, Palo Alto, CA 94304. (D,R)

65. *Alexsam, Inc. v. Evolution Benefits, Inc. et al.*, Case No. 2:07cv288-TJW (E.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [6,000,608](#), relating to multifunction epayment cards. Case settled four weeks after Dr. Shamos's deposition. Original firm: Wolf, Greenfield & Sacks, P.C. Contact: [James Foster, Esq., Hayes Messina Gilman Hayes LLC](#), 200 State St., 6th Floor, Boston, MA 02109. (D,R)

66. *Motivation Innovations, LLC v. DSW Inc. et al.*, C.A. No. 08-334-SLR (D. Del.). Served as an expert for defendant DSW, Inc. in a case alleging infringement of U.S. Patent [5,612,527](#), relating to a system for redeeming discount offers at point of sale. Case has settled. Contact: [Drew Blatt, Ph.D., Esq., Wood, Heron & Evans LLP](#), 2700 Carew Tower 441 Vine Street Cincinnati, Ohio 45202.

67. *Discovery Communications, Inc. v. Amazon.com, Inc.*, C.A. No. 09-178-ER (D. Del.). Served as an expert for plaintiff Discovery Communications in a case alleging infringement of plaintiff's U.S. Patents [5,986,690](#), [6,657,173](#), [7,298,851](#), [7,299,501](#), [7,336,788](#) and [7,401,286](#), relating to electronic book viewers and electronic book selection and delivery systems, and defendant-counterclaimant's U.S. Patents [6,029,141](#) and [7,337,133](#), relating to Internet-based customer referral systems. Case has settled. Contact: [Brent P. Lorimer, Esq., Workman | Nydegger](#), 1000 Eagle Gate Tower, 60 East South Temple Salt Lake City, UT 84111.

68. *Amazon.com v. Discovery Communications, Inc.*, No. 2:09-cv-0681-RSL (W.D. Wash.). Served as an expert for defendant Discovery Communications in a case alleging

infringement of U.S. Patents [6,006,225](#), [6,169,986](#), relating to refinement of online search queries, and U.S. Patents [6,266,649](#) and [6,317,722](#), relating to generation of online recommendations. Case has settled. Contact: [Brent P. Lorimer, Esq., Workman | Nydegger](#), 1000 Eagle Gate Tower, 60 East South Temple Salt Lake City, UT 84111.

69. *IMX, Inc. v. E-Loan, Inc. and Banco Popular North America, Inc.*, No. 09-cv-20965 (S.D. Fla.). Served as an expert for defendants in a case alleging infringement of U.S. Patent [5,995,947](#), relating to an interactive loan processing and mortgage trading system. Case was stayed pending reexamination. On appeal after reexamination, all but four of the asserted claims were cancelled. In CBM2015-00012, all asserted claims were found unpatentable under §101. Case has settled. Contact: [Samuel A. Lewis, Esq., Feldman Gale, PA](#), One Biscayne Tower, 30th Floor, 2 South Biscayne Blvd., Miami, FL 33131. (D,R)

70. *Soverain Software LLC v. CDW Corp. et al.*, C.A. No. 6:07-CV-511 (E.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [5,715,314](#), [5,909,492](#), and [7,272,639](#), relating to methods of conducting electronic commerce. All defendants settled except Newegg, Inc. Dr. Shamos testified on validity at a jury trial in April 2010. Result: all claims valid; the '314 and '492 claims infringed, with a running royalty assessed against Newegg. After trial, the Court found the '639 patent infringed as a matter of law. In January 2013 the Federal Circuit found the asserted claims obvious as a matter of law, The Supreme Court declined review. Contact: [Ognian Shentov, Esq., Jones Day](#), 222 E. 41st St., New York, NY 10017. (D,R,T)

71. *Netcraft Corp. v. AT&T Mobility LLC et al.*, C.A. No. 07-651-GMS (D. Del.). Served as an expert for defendants in a case alleging infringement of U.S. Patents [5,974,221](#), [6,351,738](#) and [6,411,940](#), relating to electronic commerce billing methods. Case settled two months after Dr. Shamos's deposition. Contact: [H. Jonathan Redway, Esq., Dickinson Wright PLLC](#), 1875 Eye St., Washington, DC 20006. (D,R)

72. *ValueClick, Inc. v. Tacoda, Inc., AOL, LLC and Platform-A, Inc.*, Case No. 2:08-cv-04619 DSF (JCx) (C.D. Cal.). Served as an expert for defendants in a case alleging infringement of U.S. Patents [5,848,396](#) and [5,991,735](#), relating to software and methods for creating psychographic profiles of network users. Case settled in May 2010. Original firm: Orrick, Herrington & Sutcliffe, LLP. Contact: [Paul R. Gupta, Esq., DLA Piper](#), 1251 Avenue of the Americas, New York, NY 10020.

73. *SP Technologies, Inc. v. Garmin Limited et al.*, Civil Action No. 08-CV-3248 (N.D. Ill.). Served as an expert for defendant TomTom, Inc. in a case alleging infringement of U.S. Patent [6,784,873](#), relating to graphical keyboards on touchscreens. Defendants prevailed on summary judgment of invalidity. Contact: [Brian Pandya, Esq., Wiley Rein LLP](#), 1776 K Street NW, Washington DC 20006. (D,R)

74. *ePlus, Inc. v. Lawson Software, Inc.*, Civil Action No. 3:09-cv-620 (E.D. Va.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,023,683](#), [6,055,516](#) and [6,505,172](#), relating to electronic procurement systems. Dr. Shamos testified at a jury trial in Richmond in January 2011. Result: No infringement as to most accused configurations;

infringement as to others. Past damages were precluded by the Court. On appeal, the Federal Circuit found the system claims invalid as indefinite. Contact: [Daniel McDonald, Esq., Merchant & Gould PC](#), 3200 IDS Center, 80 South Eighth Street, Minneapolis, MN, 55402. (D,R,T)

75. *Bed Bath & Beyond, Inc. v. Sears Brands, LLC*, Civil Action 08 CV 5839-SDW-MCA (D. N.J.). Served as an expert for plaintiff in a declaratory judgment action regarding alleged infringement of U.S. Patent [5,970,474](#), relating to retail gift registry systems. Case has settled. Contact: [William Mentlik, Esq., Lerner David Littenberg, Krumholz & Mentlik LLP](#), 600 South Avenue West, Westfield, NJ 07090. (D,R)

76. *Transauction, LLC v. eBay, Inc.*, Case No. 3:09-cv-3705-SJ (N.D. Cal.). Served as an expert for defendant in a case alleging infringement of U.S. Patent [7,343,339](#), relating to guarantees in online auctions. Case settled after expert reports were submitted. Firm: [Irell & Manella LLP](#), 1800 Avenue of the Stars, Suite 900, Los Angeles, CA 90067. Contact: [Peter E. Gratzinger, Esq., Munger, Tolles & Olson LLP](#), 355 South Grand Avenue, Los Angeles, CA 90071. (R)

77. *SDG Corporation v. Patrizzi & Co. Auctioneers SA et al.*, ICDR Case No. 50 117 T 00313 09 (Int'l. Centre for Dispute Resolution). Served as an expert for claimant in an arbitration alleging breach of contract to produce software for operating online auctions. Dr. Shamos testified at arbitration in October 2010. Award for SDG on all claims and denial of all of Patrizzi's counterclaims. Contact: [Bruce Fox, Esq., Obermayer Rebmann Maxwell & Hippel LLP](#), One Mellon Center, Suite 5240, Pittsburgh, PA 15219. (D,R,T)

78. *Walker Digital, LLC v. Capital One Services, LLC et al.*, Civil Action 1:10cv212 (JFA) (E.D. Va.). Served as an expert for defendants in a case alleging infringement of U.S. Patents [5,970,478](#) and [6,374,230](#), relating to customizing and pricing credit card accounts. Defendants prevailed on summary judgment of non-infringement supported by a declaration from Dr. Shamos. Affirmed by the Federal Circuit on July 28, 2011. Contact: [Charles S. Barquist, Esq., Morrison & Foerster LLP](#), 555 West Fifth Street, Suite 3500, Los Angeles, CA 90013. (R)

79. *Voter Verified, Inc. v. Premier Election Solutions, Inc. et al.*, Case No. 6:09-cv-1968-19KRS (M.D. Fla.). Served as an expert for defendants, manufacturers of voting equipment, in a case alleging infringement of U.S. Patents [6,769,613](#) and [RE40,449](#), relating to paper trail verification of ballots. The Court [denied](#) a Daubert motion to exclude testimony by Dr. Shamos. Summary judgment of non-infringement granted July 28, 2011, affirmed by the Federal Circuit on November 5, 2012. All claims of the '449 patent were found non-statutory by the Federal Circuit in 2018. Contact: [Robert M. Evans, Jr., Esq., Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (R)

80. *Elder et al. v. National Conference of Bar Examiners*, No. C 11-00199 SI (N.D. Cal.). Served as an expert for disabled plaintiffs in a case seeking an injunction to permit them to take the bar examination in electronic format. Preliminary injunction granted Feb. 16, 2011. Plaintiff took the bar exam, passed and was awarded \$224,000 in attorney's fees. Contact: [Daniel F.](#)

[Goldstein, Esq., Brown, Goldstein & Levy, LLP](#), 120 E. Baltimore St., Suite 1700, Baltimore, MD 21202. (R)

81. *Ameranth, Inc. v. Menusoft Systems Corp., et al.*, Civil Action 2-07-CV-271 TJW/CE (E.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [6,384,850](#), [6,871,325](#) and [6,982,733](#), relating to synchronous updating of restaurant menus on wireless devices. After trial, the jury found the patents not infringed. Case settled while an appeal to the Federal Circuit was pending. Contact: John W. Osborne, Esq., Osborne Law LLC, 33 Habitat Lane, Cortlandt Manor, NY 10567. (D,R,T)

82. *BuyFigure.com, Inc. v. Autotrader.com et al.*, Case No. 06391 (Ct. of Common Pleas of Philadelphia County, PA, 2010). Served as an expert for defendants in a case alleging misappropriation of trade secrets concerning a method of selling automobiles over the Internet. Summary judgment was granted in Defendants' favor in August 2012. Contact: [Howard D. Scher, Esq., Buchanan Ingersoll & Rooney, P.C.](#), Two Liberty Place, 50 S. 16th Street, Philadelphia, PA 19102. (R)

83. *Soverain Software LLC v. J.C. Penney Corp., Inc. et al.*, C.A. No. 6:09-CV-274 (E.D. Tex.). Served as an expert for plaintiff on validity issues in a case alleging infringement of U.S. Patents [5,715,314](#), [5,909,492](#), and [7,272,639](#), relating to methods of conducting electronic commerce. The '639 patent was dropped before trial and all defendants settled except Avon Products and Victoria's Secret. After trial, the jury found all claims valid and infringed, and awarded damages of \$9.2 million against Victoria's Secret and \$8.7 million against Avon. Contact: [Robert B. Wilson, Esq., Quinn Emanuel Urquhart & Sullivan, LLP](#), 51 Madison Avenue, 22nd Floor, New York, NY 10010. (D,R,T)

84. *AOL, LLC, et al. v. Yahoo! Inc. et al.*, No. 09 Civ. 3774 (WHP) (S.D.N.Y.). Served as an expert for declaratory judgment plaintiff AOL in a case alleging infringement of U.S. Patents [6,078,866](#), [6,269,361](#), [6,546,386](#), [6,907,566](#), [7,043,483](#), [7,107,264](#), [7,373,599](#), and [7,702,541](#), relating to online advertising placement and targeted e-commerce. Case settled in Feb. 2011. Original firm: Orrick, Herrington & Sutcliffe LLP. Contact: William B. Tabler II, Esq., [Flextronics](#), 6201 America Center Drive, San Jose, CA 95002.

85. *Accenture Global Services GmbH et al. v. Guidewire Software, Inc.*, Civ. No. 09-848-SLR (D. Del.). Served as an expert for Accenture in a case alleging infringement of U.S. Patent [7,617,240](#), relating to automated insurance claim handling. Case settled in Oct. 2011. Original firm: Morrison & Foerster, LLP. Contact: [L. Scott Oliver, Esq., K&L Gates LLP](#), 630 Hansen Way, Palo Alto, CA 94304. (D,R)

86. *Amdocs (Israel) Limited v. Openet Telecom, Inc. et al.*, Case 1:10-cv-00910-LMB-TRJ (D. Del.). Served as an expert for Defendant Openet in a case alleging infringement of U.S. Patents [6,836,797](#) and [7,631,065](#), relating to aggregated billing for network services. Summary judgment of non-infringement granted in favor of Defendants in Sept. 2012. The Court's [opinion](#) cites Dr. Shamos' testimony. Judgment reversed on appeal in 2014, but on remand, all claims were invalidated as claiming non-statutory subject matter. After a second appeal, the

§101 ruling was reversed. Case settled during trial in 2018. Contact: Kevin Anderson, Esq., Duane Morris LLP, 505 9th Street, N.W., Suite 1000, Washington, DC 20004-2166 (D,R)

87. *Cross-Atlantic Capital Partners, Inc. v. Facebook, Inc. et al.*, Case 07-CV-2768 JP (E.D. Pa.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [6,519,629](#), relating to establishment of online communities. Asserted claims were cancelled upon reexamination. Case has been dismissed. Original firm: McShea/Tecce PC. Contact: [Frederick Tecce, Esq.](#), [Panitch Schwarze Belisario & Nadel LLP](#), One Commerce Square, 2005 Market Street, Suite 2200, Philadelphia, PA 19103. (R)

88. *Chavez et al. v. Bennett et al.*, CV 2006-007000 (Ariz. Super., Maricopa Cty.). Served as an expert for defendant Secretary of State of Arizona and county defendants in a case alleging that the electronic voting systems used in Arizona violated the rights of voters. Case was voluntarily dismissed by plaintiffs in May 2011. Contact: Laurence G. Tinsley, Jr., Esq, Senior General Counsel, Maricopa County Office of General Litigation Services, 301 W. Jefferson St., Phoenix, AZ 85003.

89. *Bonnette v. District of Columbia Court of Appeals and National Conference of Bar Examiners*, No. 11-cv-01053-CKK (D. D.C.). Served as an expert for a disabled plaintiff in a case seeking a preliminary injunction permitting her to take the bar examination in electronic format. Injunction granted. Case subsequently settled with Plaintiff receiving \$141,000 in attorneys' fees and costs. Contact: [Daniel F. Goldstein, Esq.](#), [Brown, Goldstein & Levy, LLP](#), 120 E. Baltimore St., Suite 1700, Baltimore, MD 21202.

90. *Jones v. National Conference of Bar Examiners et al.*, No. 5:11-cv-00174-cr (D. Vermont). Served as an expert for a disabled plaintiff in a case seeking an injunction permitting to take the bar examination using assistive technology. The preliminary injunction was granted. Plaintiff was awarded \$275,000 in attorneys' fees and costs. Contact: [Daniel F. Goldstein, Esq.](#), [Brown, Goldstein & Levy, LLP](#), 120 E. Baltimore St., Suite 1700, Baltimore, MD 21202. (R)

91. *AlmondNet, Inc. v. Microsoft Corporation*, Case 10-CV-298 (W.D. Wisc.). Served as an expert for plaintiff and counterclaim defendant AlmondNet in a case alleging infringement of U.S. Patents [6,973,436](#), [7,072,853](#), [7,454,364](#) and [7,822,637](#) by Microsoft, relating to bidding for Internet ad placement, and infringement of U.S. Patent [6,632,248](#) by AlmondNet, relating to customization of network documents via a unique user identifier. Microsoft obtained summary judgment of non-infringement. Contact: [Meredith Zinanni, Esq.](#), [Kirkland & Ellis LLP](#), 300 N. LaSalle, Chicago, IL 60604.

92. *Kelora Systems, LLC. v. Target Corporation et al.*, Case 10-CV-683 (W.D. Wisc.). Served as an expert for defendant Mason Companies, Inc. in a case alleging infringement of U.S. Patent [6,275,821](#), relating to guided parametric searching in online catalogs. Case settled as to this defendant in July 2011. The Court granted summary judgment of invalidity and non-infringement as to the other defendants, affirmed by the Federal Circuit. Contact: [Shane A. Brunner, Esq.](#), [Merchant & Gould](#), 10 East Doty St., Suite 600, Madison, WI 53703.

93. *TNS Media Research, LLC et al. v. TRA Global, Inc.*, Case 1:2011-CV-4039 (SAS) (S.D. N.Y.). Served as an expert for declaratory judgment plaintiffs in case alleging infringement of U.S. Patent [7,729,940](#), relating to anonymous matching of program viewing data from television set-top boxes with purchase data from other sources. Patentee's motion for preliminary injunction was [denied](#) on Sept. 23, 2011. Plaintiffs' motion for summary judgment of non-infringement was granted on October 3, 2013. Reversed and remanded by the Federal Circuit. Contact: [Michael Albert, Esq.](#), [Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210. (R)

94. *Accenture Global Services GmbH et al. v. Guidewire Software, Inc.*, Case 3:11-03563-JSW (N.D. Cal.); *Guidewire Software, Inc. v. Accenture PLC et al.*, Case 4:11-cv-04686-LB (N.D. Cal.). Served as an expert for Accenture in related cases alleging infringement by Guidewire of U.S. Patents [6,574,636](#), [7,409,355](#) and [7,979,382](#), relating to systems for insurance claim handling and alleging infringement by Accenture of U.S. Patents [5,630,069](#), [5,734,837](#), [6,058,413](#) and [6,073,109](#), relating to workflow management systems. Cases settled in Oct. 2011. Contact: [Colleen Garlington, Esq.](#), [Kirkland & Ellis LLP](#), 300 N. LaSalle St., Chicago, IL 60604.

95. *XPRT Ventures, LLC v. eBay, Inc. et al.*, C.A. 1:2010-cv-595 (SLR) (D. Del.). Served as an expert for Defendants eBay and PayPal in a case alleging infringement of U.S. Patents [7,483,856](#), [7,512,563](#), [7,567,937](#), [7,599,881](#), [7,610,244](#), [7,627,528](#), relating to methods of paying for items purchased through electronic auctions. Case has settled. Contact: [Adrian Percer, Esq.](#), [Weil, Gotshal & Manges, LLP](#), 201 Redwood Shores Parkway, Redwood Shores, CA 94065. (D,R)

96. *Rich Media Club, LLC et al. v. Nikolai Mentchoukov et al.*, Civil No. 2:11-cv-01202-SA (D. Utah). Served as an expert for Plaintiffs in a case alleging breach of an employment contract, unfair competition concerning systems for placing advertisements on web pages and infringement of U.S. Patent [7,313,590](#), relating to communication between client and server computers without requiring a browser. Contact: [Jared Richards, Esq.](#), [Bennett Tueller Johnson & Deere, LLC](#), 3165 East Millrock Drive, Suite 500, Salt Lake City, Utah 84121. (R)

97. *Franklin Inventions LLC v. Election Systems & Software, Inc.*, Case No: 2:09-cv-377 (E.D. Tex.). Served as an expert for Defendants in a case alleging infringement of U.S. Patents [6,986,999](#), [7,243,846](#) and [7,575,164](#), relating to voter-verifiable voting systems. Case settled after a declaration concerning invalidity was submitted by Dr. Shamos. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (R)

98. *Illinois Computer Research, LLC v. HarperCollins Publishers, LLC, et al.*, Case No.: 10-cv-9124 (S.D.N.Y.). Served as an expert for Defendants in a case alleging infringement of U.S. Patent [7,111,252](#), relating to limiting access to electronic books. Case settled after Markman. Contact: [Brian S. Rosenbloom, Esq.](#), [Rothwell, Figg, Ernst & Manbeck, P.C.](#), 607 14th Street, N.W., Suite 800, Washington, DC 20005. (R)

99. *Realtime Data, LLC d/b/a IXO v. Morgan Stanley et al.*, Case No.: 11 Civ. 6696 (RJH), *Realtime Data, LLC d/b/a IXO v. CME Group Inc. et al.*, Case No.: 11 Civ. 6701 (RJH),

Realtime Data, LLC d/b/a IXO v. Thompson Reuters, et al., Case No.: 1:2011-cv-06704 (RJH) (S.D.N.Y). Served as an expert for Plaintiff in three consolidated cases alleging infringement of U.S. Patents [7,417,568](#), [7,714,747](#), and [7,777,651](#), relating to compression and decompression of financial data streams. Summary judgment granted for defendants, upheld by the Federal Circuit. Contact: [Dirk D. Thomas, Esq.](#), [McKool Smith](#), 1999 K Street, N.W., Suite 600, Washington, DC 20006. (D,R,T)

100. *Mulhern Belting, Inc. v. Tele-Data Solutions, Inc.*, Civil Action L-2258-10 (Sup. Ct. Bergen Cty. NJ). Served as an expert for defendant Vertical Communications, Inc. in a case alleging breach of contract and fraud in connection with the installation of an integrated voice-over-IP (VoIP) telecommunications system. Case has settled. Contact: [John J. Abromitis, Esq.](#), [Courter, Kobert & Cohen P.C.](#), 1001 Route 517, Hackettstown, NJ 07840. (R)

101. *Decision Support, LLC v. Election Systems & Software, Inc.*, Case No: 3:10cv90 (W.D. N.C.). Served as an expert for Defendants in a case alleging infringement of U.S. Patent [7,497,377](#), relating to electronic voter registration and pollbook systems. Case has settled. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (R)

102. *Rovi Corporation et al. v. Amazon.com, Inc. et al.*, Case No. 11-cv-00003-RGA (D. Del.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patents [5,988,078](#), [6,275,268](#), [6,769,128](#), [7,493,643](#) and [7,603,690](#), relating to customized on-screen television guides. The parties stipulated to entry of judgment of noninfringement. Contact: [Ragesh L. Tangri, Esq.](#), [Durie Tangri LLP](#), 217 Leidesdorff Street, San Francisco, CA 94111.

103. *Certain Products Containing Interactive Program Guide and Parental Control Technology*, USITC Inv. No. 337-TA-820. Served as an expert for Complainants Rovi Corporation et al. and against Vizio, Inc. et al. in an International Trade Commission proceeding involving alleged infringement of U.S. Patents [6,701,523](#), [7,047,547](#), [7,493,643](#) and [RE41,993](#), relating to v-chips and electronic TV program guides. Case has settled. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304. (R)

104. *Rovi Corporation et al. v. Roku, Inc.*, Case No. 12-cv-2185 EJD (N.D. Cal.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patent [6,898,762](#), relating to a client/server electronic television program guide. Voluntarily dismissed by plaintiff without prejudice. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304.

105. *Rovi Corporation et al. v. LG Electronics, Inc. et al.*, Case No. 12-cv-00545-SLR (D. Del.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patents [6,898,762](#), [7,065,709](#), [7,225,455](#), [7,493,643](#) and [8,112,776](#), relating to electronic television program guides. Case has settled. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304.

106. *Rovi Corporation et al. v. Vizio, Inc.*, Case No. 12-cv-00546-SLR (D. Del.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patents [6,898,762](#), [7,065,709](#),

[7,103,996](#) and [8,112,776](#), relating to electronic television program guides. Case has settled. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304.

107. *Rovi Corporation et al. v. Mitsubishi Electric Corp. et al.*, Case No. 12-cv-00547-SLR (D. Del.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patents [6,701,523](#), [7,225,455](#) and [7,493,643](#), relating to electronic television program guides. Case has settled. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304.

108. *Netflix, Inc. v. Rovi Corporation et al.*, Case No. 11-cv-06591-PJH (N.D. Cal.). Served as an expert for Defendants in a declaratory judgment case seeking a declaration of non-infringement of U.S. Patents [6,305,016](#), [6,898,762](#), [7,100,185](#), [7,103,906](#) and [7,945,929](#), relating to electronic television program guides. Summary judgment was granted declaring all asserted claims invalid under 35 U.S.C. §101, affirmed by the Federal Circuit. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304. (R)

109. *Certain Products Containing Interactive Program Guide and Parental Control Technology*, USITC Inv. No. 337-TA-845. Served as an expert for Complainants Rovi Corporation et al. and against Netflix, Inc. et al. in an International Trade Commission proceeding involving alleged infringement of U.S. Patents [6,701,523](#), [6,898,762](#), [7,065,709](#), [7,103,906](#), [7,225,455](#), [7,493,643](#) and [8,112,776](#), relating to v-chips and electronic TV program guides. On Initial Determination, all claims Dr. Shamos testified about were found valid. The import requirement was found not satisfied and no infringement was found. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304. (D,R,T)

110. *Yardi Systems, Inc. v. Realpage, Inc. et al.*, Case No. 2:11-cv-0090-ODW-JEM (C.D. Cal.). Served as an expert for Defendants in an action alleging misappropriation of trade secrets, unfair competition, violation of the Computer Fraud and Abuse Act, the Comprehensive Computer Data Access and Fraud Act (Cal. Penal Code §502) and the Digital Millennium Copyright Act, arising out of provision of cloud-based property management systems. Case has settled. Contact: [Susan van Keulen, Esq.](#), [O'Melveny & Myers LLP](#), 2765 Sand Hill Road, Menlo Park, CA 94025.

111. *Long Range Systems, LLC v. HME Wireless, Inc.*, Civil Action 3:12-cv-03659-P (N.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [6,712,278](#), relating to a wireless system for locating a customer's table in a restaurant. Case was dismissed by plaintiff. Contact: [David Cabello, Esq.](#), [Wong, Cabello, Lutsch, Rutherford & Brucculeri, LLP](#), 20333 SH 249, Suite 600, Houston, Texas 77070. (R)

112. *EdiSync Systems, LLC v. Centra Software, Inc. et al.*, Civil Action 03-cv-01587-WYD-MEH (D. Colo.). Served as an expert for Defendant Saba Software Inc. in a case alleging infringement of U.S. Patent [5,799,320](#), relating to multi-author document editing systems. Case has settled. Contact: [Robert M. Abrahamsen, Esq.](#), [Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210. (D,R)

113. *TecSec, Inc. v. IBM et al.*, Case No. 1:10-cv-115-LMB/TCB (E.D. Va.). Served as an expert for Defendant SAS Institute, Inc. in a case alleging infringement of U.S. Patents [5,369,702](#), [5,680,452](#), [5,717,755](#) and [5,898,781](#), relating to the Distributed Cryptographic Object Method, allowing embedding of encrypted objects within other objects. The Court entered judgment of non-infringement after Markman. Affirmed by the Federal Circuit at 2011-1303. Contact: [Thomas R. Goots, Esq.](#), [Jones Day](#), North Point, 901 Lakeside Avenue, Cleveland, Ohio 44114-1190.

114. *Integrated Technological Systems, Inc. v. Green Dot Corporation*, Civ. Action No. 2:11-cv-01626-GMN-(GWF) (D. Nev.). Served as an expert for Defendant in a case alleging infringement of U.S. Patent [7,912,786](#), relating to an electronic payment system for transferring money between debit card accounts. Case has settled. Contact: [Benjamin J. Sodey, Esq.](#), [Bryan Cave LLP](#), One Metropolitan Square (211 North Broadway), Suite 3600, St. Louis, MO 63102-2750.

115. *Hausen et al. v. PS Illinois Trust*, Case No. 11-cv-06888 (N.D. Ill.). Served as an expert for Plaintiff in a case concerning the reasonableness of credit card and email notification practices employed by a public storage facility prior to selling customers' stored goods. Case has settled. Contact: [Jeffrey S. Becker, Esq.](#), [Swanson, Martin & Bell, LLP](#), 330 N. Wabash, Suite 3300, Chicago, IL 60611. (D,R)

116. *Linksmart Wireless Technology, LLC v. T-Mobile, USA, Inc. et al.*, Case 2:08-cv-264-DF-CE (E.D. Texas). Served as an expert for Defendant Choice Hotels International, Inc. in a case alleging infringement of U.S. Patent [6,779,118](#), relating to rule-based redirection of Internet service requests based on a user ID. Case has settled. Contact: [Gregory R. Lyons, Esq.](#), [Wiley Rein LLP](#), 1776 K Street NW, Washington DC 20006.

117. *SAP America, Inc. v. Purple Leaf, LLC et al.*, Case No. 4:11-cv-04601-PJH (N.D. Cal.). Served as an expert for declaratory judgment plaintiff SAP in a case alleging infringement of U.S. Patents [7,603,311](#) and [8,027,913](#), relating to methods for conducting payment transactions over the Internet. Case has settled. Original firm: Simpson Thatcher & Bartlett LLP. Contact: [Brian McCloskey, Esq.](#), [Greenberg Traurig, LLP](#), MetLife Building, 200 Park Ave., New York, NY 10166.

118. *Ameranth, Inc. v. PAR Technology Corp., et al.*, Civil Action 2-10-CV-294 JRG-RSP (E.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [6,384,850](#) and [6,871,325](#), relating to synchronous updating of hospitality applications and data on wireless devices. Case settled after expert reports were served. Contact: John W. Osborne, Esq., Osborne Law LLC, 33 Habitat Lane, Cortlandt Manor, NY 10567. (R)

119. *Digital-Vending Services International, LLC, v. The University of Phoenix, Inc. et al.*, Civil Action 2:09-cv-555-AWA-TEM (E.D. Va.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [6,170,014](#), [6,282,573](#) and [6,606,664](#), relating to content delivery methods particularly applicable to online courseware. Summary judgment of non-infringement

granted October 4, 2013. Contact: [Andrew G. DiNovo, Esq.](#), [DiNovo Price Ellwanger & Hardy LLP](#), 7000 N. MoPac Expressway, Suite 350, Austin, TX 78731. (D,R)

120. *Analytical Mechanics Associates, Inc. v. Rhythm Engineering, LLC et al.*, Case No. 4:12-cv-00008 (E.D. Va.). Served as an expert for defendants in a case alleging breach of a contract relating to development of an image processing system to detect vehicles at intersections and control traffic signals. Case was resolved by binding arbitration. Contact: [John K. Power, Esq.](#), [Husch Blackwell LLP](#), 4801 Main Street, Suite 1000, Kansas City, MO 64112. (D,R,T)

121. *Protegrity Corporation v. Voltage Security, Inc.*, Case No. 3:10-CV-755 (RNC) (D. Conn.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,321,201](#), [6,963,980](#) and [7,325,129](#), relating to methods of encrypting databases. Case settled during trial. Contact: [Edward G. Poplawski, Esq.](#), [Wilson Sonsini Goodrich & Rosati Professional Corporation](#), 650 Page Mill Road, Palo Alto, CA 94304-1050. (D,R,T)

122. *Progressive Casualty Insurance Company v. Allstate Insurance Company et al.*, Case No. 1:11-cv-00082-BYP. Served as an expert for defendant Allstate in a case alleging infringement of U.S. Patent [6,064,970](#), relating to determining the cost of automobile insurance by monitoring the location and activity of a vehicle, and U.S. Patent [7,124,088](#), relating to online modification and quoting of insurance policies. Case has settled as to Allstate. Contact: [James Medek, Esq.](#), [Kirkland & Ellis LLP](#), 300 North LaSalle Chicago, IL 60654.

123. *Symantec Corporation v. Acronis, Inc. et al.*, Case No. 3:11-cv-05310 EMC (N.D. Cal.). Served as an expert for plaintiff and infringement counterclaim defendant Symantec in a case alleging infringement of U.S. Patents [6,615,365](#), [7,047,380](#), [7,246,211](#) and [7,266,655](#), relating to online disk backup, imaging and recovery systems, U.S. Patent [7,093,086](#), relating to backup of virtual machines, U.S. Patent [7,322,010](#), relating to graphic views of computer configurations and U.S. Patent [7,565,517](#), relating to retargeting hardware configuration images to new hardware. Case has settled. Contact: [Jennifer Kash, Esq.](#), [Quinn Emanuel Urquhart & Sullivan LLP](#), 50 California Street, 22nd Floor, San Francisco, California 94111. (D,R)

124. *Secure Access, LLC v. Bank of America Corp. et al.*, Civil Action No. 6:10-cv-670-LED (E.D. Tex.). Served as an expert for defendants Zions First National Bank and Amegy Bank N.A. in a case alleging infringement of U.S. Patent [7,631,191](#), relating to authenticating web pages. Case has settled as to those defendants. Contact: [Brian Pandya, Esq.](#), [Wiley Rein LLP](#), 1776 K Street NW, Washington DC 20006.

125. *The MoneySuite Company v. Insurance Answer Center, LLC et al.*, Case No. SACV 11-1847-AG (C.D. Cal.). Served as an expert for defendants, including The Allstate Corporation, in a case alleging infringement of U.S. Patent [6,684,189](#), relating to online quoting of insurance policy rates. Case has settled. Contact: [Garret A. Leach, Esq.](#), [Kirkland & Ellis LLP](#), 300 N. LaSalle, Chicago. IL 60654. (D,R)

126. *e-LYNXX Corporation v. Innerworkings, Inc. et al.*, CA 1:10-cv-02535-CCC (M.D. Pa.). Served as an expert for defendants, including R.R. Donnelley & Sons Company, in a case alleging infringement of U.S. Patents [7,451,106](#) and [7,788,143](#), relating to electronic

procurement of customized goods and services. The Court granted summary judgment of non-infringement in July 2013. Contact: [James R. Nuttall, Esq.](#), [Steptoe & Johnson](#), LLP, 115 South LaSalle Street, Suite 3100, Chicago, IL 60603. (R)

127. *Vasudevan Software, Inc. v. Microstrategy, Inc.*, Case No. 3:11-cv-06637-RS-PSG (N.D. Cal.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,877,006](#), [7,167,864](#), [7,720,861](#) and [8,082,268](#), relating to methods of online analytical processing (OLAP). The patents were found invalid on summary judgment. On appeal, the Federal Circuit upheld the Court's claim constructions and judgment of non-infringement. Declaratory judgment counterclaims voluntarily dismissed. Contact: [Kevin A. Smith, Esq.](#), [Quinn Emanuel Urquhart & Sullivan, LLP](#), 50 California Street, San Francisco, CA 94111. (R)

128. *Digonex Technologies, Inc. v. Qcue, Inc.*, Case No. 1:12-cv-00801-SS (W.D. Texas). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [8,095,424](#) and [8,112,303](#), relating to computerized methods for dynamic pricing. In a Markman order, the Court found the claims indefinite. Contact: [David D. Schumann](#), [Fenwick & West LLP](#), 555 California Street, 12th Floor, San Francisco, CA 94104. (D,R,T)

129. *Peter Mayer Publishers, Inc. v. Daria Shilovskaya et al.*, Case No. 12-CV-8867-PG (S.D. N.Y.). Served as an expert for declaratory judgment defendants in a case of first impression to determine whether a reliance party under 17 U.S.C. §104A(d)(3)(B) may issue an ebook version of a work to which copyright has been restored. The Court ruled that ebooks are not transformative and hence not derivative works. Contact: Timothy O'Donnell, Esq., 40 Exchange Place, 19th Fl., New York, NY 10005. (R)

130. *SIPCO, LLC v. Control4 Corporation et al.*, CA 1:11-cv-00612-JEC (N.D. Georgia). Served as an expert for defendants Schneider Electric Buildings Americas, Inc. and Schneider Electric USA, Inc. in a case alleging infringement of U.S. Patents [7,103,511](#), [7,468,661](#) and [7,697,492](#), relating to systems for monitoring remote sensors and controlling remote devices. Case has settled. Contact: [Benjamin Bradford, Esq.](#), [Jenner & Block LLP](#), 353 N. Clark St., Chicago, IL 60654-3456.

131. *Unified Messaging Solutions LLC v. Google, Inc. et al.*, Case 1:12-cv-06286 (N.D. Ill.). Served as an expert for defendant eBay, Inc. in a case alleging infringement of U.S. Patents [6,857,074](#), [7,836,141](#), [7,895,306](#), [7,895,313](#), and [7,934,148](#), relating to message storage and delivery systems. Case has settled as to defendant eBay, Inc. Contact: [Yar R. Chaikovsky, Esq.](#), [McDermott Will & Emery LLP](#), 275 Middlefield Road, Suite 100, Menlo Park, CA 94025.

132. *Credit Card Fraud Control Corporation v. PayPal, Inc.*, Case No. 9:12-CV-81143 (S.D. Fla.). Served as an expert for defendant PayPal in a case alleging infringement of U.S. Patent [8,229,844](#), relating to reduction of fraud in online transactions. Plaintiff dismissed the case with prejudice based on prior art located by PayPal. Contact: [Adrian Percer, Esq.](#), [Weil, Gotshal & Manges, LLP](#), 201 Redwood Shores Parkway, Redwood Shores, CA 94065.

133. *Comscore, Inc. v. Integral Ad Science, Inc.*, Civil Action 2:12-cv-00351-HCM-DEM (E.D. Va.). Served as an expert for defendant Integral in a case alleging infringement of U.S. Patents [6,108,637](#), [6,115,680](#), [6,327,619](#), [6,418,470](#), [7,386,473](#), [7,613,635](#), [7,716,326](#) and [7,756,974](#), relating to determining whether a portion of a displayed page is visible to a user. Case has settled as to defendant Integral. Contact: [Robert M. Abrahamsen, Esq.](#), [Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210.

134. *Ariba, Inc. v. Coupa Software, Inc.*, Case No. 3:12-cv-01484 JST (N.D. Cal.). Served as an expert for plaintiff Ariba in a case alleging infringement of U.S. Patent [7,117,165](#), relating to electronic methods for approving requisitions and generating purchase orders. Case has settled. Contact: [Amy Van Zant, Esq.](#), [Covington & Burling LLP](#), 333 Twin Dolphin Drive, Redwood Shores, CA 94605-1418. (D,R)

135. *Lowe v. National Board for Respiratory Care, Inc. et al.*, Docket 1:12-cv-00345-DBH (D. Maine). Served as an expert for disabled plaintiff in a case seeking an injunction permitting to take a professional qualification examination using assistive computer technology. Case settled shortly after Dr. Shamos's declaration in support of preliminary injunction was filed. Contact: Kristin Aiello, Esq., Managing Attorney, [Disability Rights Center](#), 24 Stone St., Augusta, ME 04338. (R)

136. *Checkfree Corporation et al. v. Metavante Corporation et al.*, Case No. 3:12-cv-15-J-34JBT (M.D. Fla.) Served as an expert for defendant Metavante in a case alleging infringement of U.S. Patents [7,383,223](#), [7,792,749](#), [7,853,524](#) and [7,966,311](#), relating to transferring funds in electronic payment networks. Defendants have counterclaimed, alleging infringement of U.S. Patents. [7,370,014](#), [7,734,543](#) and [7,958,049](#), relating to electronic invoice presentment. All claims of all four patents asserted by Plaintiff have been found invalid by the Patent Office. Case was stayed pending appeal, followed by voluntary dismissal by Plaintiff. Contact: [Jeffrey A. Berkowitz, Esq.](#), [Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.](#), Two Freedom Square, 11955 Freedom Drive, Reston, VA 20190-5675. (D,R)

137. *PPS Data, LLC v. Passport Health Communications, Inc.*, Case No. 2:12-cv-00438-DN (C.D. Utah). Served as an expert for defendant Passport in a case alleging infringement of U.S. Patents [6,341,265](#) and [7,194,416](#), relating to preparing and correcting health insurance claim forms. Case settled shortly after Dr. Shamos's claim construction report was served. Contact: [Edward J. Pardon, Esq.](#), [Merchant & Gould](#), 10 East Doty Street, Suite 600, Madison, WI 53703. (R)

138. *Lodsys, LLC v. Combay, Inc. et al.*, Civil Action 2:11-cv-272 (E.D. Texas). Served as an expert for defendant Symantec Corporation in a case alleging infringement of U.S. Patents [7,222,078](#) and [7,620,565](#), relating to gathering feedback from products through a user interface. Case settled two weeks after Dr. Shamos's deposition. Contact: [David D. Schumann, Fenwick & West LLP](#), 555 California Street, 12th Floor, San Francisco, CA 94104. (D,R)

139. *Long Range Systems, LLC v. HME Wireless, Inc.*, Civil Action 3:12-cv-04162M (N.D. Tex.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [6,542,751](#) and [7,062,281](#), relating to methods of paging customers at a restaurant. Case was dismissed by

plaintiff after a tentative Markman ruling. Contact: [David Cabello, Esq., Wong, Cabello, Lutsch, Rutherford & Brucculeri, LLP](#), 20333 SH 249, Suite 600, Houston, Texas 77070. (R)

140. *Symantec Corporation v. Veeam Software Corporation*, Case No. 3:12-cv-0700-SI (N.D. Cal.). Served as an expert for plaintiff Symantec in a case alleging infringement of U.S. Patents [6,931,558](#), relating to methods for restoring network devices after failure, [7,024,527](#), relating to methods of backing up disk while applications are active, [7,093,086](#), relating to methods for backing up virtual machines, [7,254,682](#), relating to snapshot disk backup, [7,480,822](#), relating to restoring running states of computing systems, [7,831,861](#), relating to restoring application data and [8,117,168](#), relating to virtual disk backups. Case is stayed pending PTAB review. All asserted claims have been found unpatentable. On appeal to the Federal Circuit, the PTAB's claim construction and obviousness determinations were upheld, case remanded to allow amendment of claims. Case subsequently settled. Contact: [Jennifer Kash, Esq., Quinn Emanuel Urquhart & Sullivan LLP](#), 50 California Street, 22nd Floor, San Francisco, California 94111. (R)

141. *EMG Technology, LLC v. Green Mountain Coffee Roasters and Keurig, Inc.*, Case No. 6:13-cv-144 (E.D. Texas) (Lead case: 6:13-cv-134). Served as an expert for Defendants in a case alleging infringement of U.S. Patent [7,441,196](#), relating to a method of navigating a Web page linked to a sister web site. Case has settled. Contact: [Michael A. Albert, Esq., Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210.

142. *eDirect Publishing, Inc. v. Live Career, Ltd., et al.*, Case No. 12-CV-1123-JAH-JMA (S.D. Cal.). Served as an expert for plaintiff eDirect in a case alleging infringement of U.S. Patents [6,363,376](#) and [6,757,674](#), relating to automatic submission of information to career websites. Case has settled. Contact: [Ryan Baker, Esq., Baker Marquart LLP](#), 10990 Wilshire Blvd., Los Angeles, CA 90024. (D,R)

143. *Motivation Innovations, LLC v. Ulta Salon Cosmetics and Fragrance, Inc. et al.*, C.A. No. 11-615-SLR-MPT (D. Del.). Served as an expert for defendant Ulta in a case alleging infringement of U.S. Patent [5,612,527](#), relating to a system for redeeming discount offers at point of sale. The Court granted summary judgment of noninfringement. Contact: [Julie Heaney, Esq., Morris, Nichols, Arsht & Tunnell, LLP](#), 1201 North Market Street, Wilmington, DE 19899-1347. (D,R)

144. *Computer Software Protection, LLC v. Autodesk, Inc.*, C.A. No. 12-452-SLR (D. Del.). Served as an expert for Defendant Autodesk in a case alleging infringement of U.S. Patent [6,460,140](#), relating to unlocking the use of software remotely using validation number, a registration key and a license key. Case has settled. Contact: [Cheryl T. Burgess, Esq., Knobbe, Martens, Olson & Bear, L.L.P.](#), 2040 Main Street, 14th Floor Irvine, CA 92614. (R)

145. *Voltage Security, Inc. v. Protegrity Corporation*, CBM2014-0024, Patent Trial and Appeal Board. Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [8,402,281](#), relating to methods of encrypting databases. Matter has settled. Contact: [Matthew Argenti, Esq., Wilson Sonsini Goodrich & Rosati Professional Corporation](#), 650 Page Mill Road, Palo Alto, CA 94304-1050. (R)

146. *United Video Properties, Inc. et al. v. Haier Group Corp. et al.*, C.A. No. 11-1140-KAJ (D.Del.). Served as an expert for Plaintiffs in a case alleging infringement of U.S. Patents [6,701,523](#) and [7,047,547](#), relating to television parental control technology. Case has settled. Contact: [Hong S. Lin, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Avenue, Palo Alto, CA 94304. (D,R)

147. *Droplets, Inc. v. E*TRADE Financial Corporation et al.*, Case No.: 1:12-CV-02326-CM (S.D.N.Y.). Served as an expert for defendants in an action alleging infringement of U.S. Patents [6,687,745](#) and [7,502,838](#), and [8,402,115](#), relating to delivering interactive links for presenting applications on a client computer. Defendants prevailed on a summary judgment of non-infringement on the '745 Patent. All claims of the '115 and '838 Patents were found invalid after IPRs, affirmed by the Federal Circuit in 2016-2504 and 2016-2602. Contact: [Michael Levin, Esq.](#), [Wilson Sonsini Goodrich & Rosati Professional Corporation](#), 650 Page Mill Road, Palo Alto, CA 94304-1050. (D,R,T)

148. *Symantec Corporation v. Acronis, Inc. et al.*, Case No. 3:11-cv-05331 JST (N.D. Cal.). Served as an expert for plaintiff and infringement counterclaim defendant Symantec in a case alleging infringement by Symantec of U.S. Patents [7,366,859](#) and [7,831,789](#), relating to incremental disk backup, and infringement by Acronis of U.S. Patent [7,024,527](#), and [7,996,708](#), relating to disk backup and restore, U.S. Patent [7,454,592](#), and U.S. Patent [7,941,459](#), relating to single instance disk storage, and U.S. Patent [7,680,957](#), relating to modifiable representations of computer configurations. Case has settled. Contact: [Jennifer Kash, Esq.](#), [Quinn Emanuel Urquhart & Sullivan LLP](#), 50 California Street, 22nd Floor, San Francisco, California 94111. (D,R)

149. *Jazz Pharmaceuticals, Inc. v. Roxane Laboratories, Inc.*, CA 2:10-cv-06108-ES-MCA (D. N.J.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [7,668,730](#), [7,765,106](#), [7,765,107](#), [7,797,171](#) and [7,895,059](#), relating to methods of controlling the distribution of sensitive drugs. Case has settled. Contact: [Alan B. Clement, Esq.](#), [Locke Lord LLP](#), Brookfield Place, 200 Vesey Street, 20th Floor, New York, NY 10281-2101. (R)

150. *TuitionFund, LLC v. SunTrust Banks, Inc. et al.*, CA 3:11-cv-00069 (M.D. Tenn.). Served as an expert for defendants Cardlytics, Inc., Regions Financial Corp., and Regions Bank in a case alleging infringement of U.S. Patents [7,499,872](#), [7,653,572](#) and [7,899,704](#), relating to methods for awarding rebates for credit and debit card purchases. Case settled. Contact: [Michael S. Connor, Esq.](#), [Alston & Bird LLP](#), Bank of America Plaza, 101 South Tryon Street, Suite 4000, Charlotte, NC 28280-4000. (D,R)

151. *Pollin Patent Licensing, LLC et al. v. AT&T Corporation et al.*, Case No. 1:11-cv-07855 (N.D. Ill.). Served as an expert for defendants in a case alleging infringement of U.S. Patent [7,117,171](#), relating to verifying financial institution identification in electronic payment systems. Case has settled. Contact: [James L. Howard, Esq.](#), [Kilpatrick Townsend & Stockton LLP](#), 1001 West Fourth Street Winston-Salem, NC, 27101.

152. *PPS Data, LLC v. Bluepoint Solutions, Inc.*, Case 2:13-cv-01351 (D. Nev.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [7,181,430](#), [7,216,106](#),

[7,440,924](#), [7,624,071](#) and [8,126,809](#), relating to methods for processing check images in electronic payment systems. Case has settled. Contact: [Anthony H. Son, Esq.](#), [Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006. (Original firm: Wiley Rein).

153. *e-LYNXX Corporation v. Ariba, Inc.*, CA 1:12-cv-01771-CCC (M.D. Pa.). Served as an expert for defendant Ariba, in a case alleging infringement of U.S. Patents [7,451,106](#), [7,788,143](#) and [8,209,227](#), relating to electronic procurement of customized goods and services. Case has settled. Contact: [Amy Van Zant, Esq.](#), [Covington & Burling LLP](#), 333 Twin Dolphin Drive, Redwood Shores, CA 94605-1418.

154. *EMG Technology, LLC v. AutoZone, Inc.*, C.A. 6:13-cv-134 (E.D. Tex.) (Lead case: 6:12-cv-543). Served as an expert for defendant AutoZone in a case alleging infringement of U.S. Patent [7,441,196](#), relating to transcoding web sites into mobile sites. Defendant obtained summary judgment of non-infringement. Contact: [Terry L. Clark, Esq.](#), [Bass, Berry & Sims PLC](#), 1201 Pennsylvania Ave. N.W., Washington, D.C. 20004. (R)

155. *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010*, MDL No. 2179 (E.D. La.). Served as an expert for litigants BP Exploration & Production Inc. et al. on an issue relating to identification of an anonymous person through Internet searching. Contact: [Mark. J. Nomellini, Esq.](#), [Kirkland & Ellis LLP](#), 300 N. LaSalle, Chicago, IL 60654. (R)

156. *EC Data Systems, Inc., v. J2 Global, Inc. et al.*, CV 12-07544 (C.D. Cal.). Served as an expert for declaratory judgment plaintiff EC Data Systems in a case alleging infringement of U.S. Patents [6,208,638](#) and [6,350,066](#), [6,597,688](#) and [7,020,132](#), relating to electronic distribution of faxes through email. Case has settled. Contact: [Matthew Spohn, Esq.](#) [Norton Rose Fulbright LLP](#), Tabor Center, 1200 17th Street, Suite 1000, Denver, Colorado 80202.

157. *MoneyCat, Ltd. v. PayPal, Inc.*, CA 1:13-cv-01358-RGA (D. Del.), now 3:14-cv-02490-PSG (N.D. Cal.). Served as an expert for defendant PayPal in a case alleging infringement of U.S. Patents [7,590,602](#), [8,195,578](#) and [8,051,011](#), relating to issuance and transfer of electronic currency. On CBM review, the PTAB found all asserted claims of all three patents invalid, affirmed by the Federal Circuit. Case was subsequently dismissed. Contact: [Adrian Percer, Esq.](#), [Weil, Gotshal & Manges, LLP](#), 201 Redwood Shores Parkway, Redwood Shores, CA 94065. (D,R)

158. *GSI Commerce Solutions, Inc. v. Clear With Computers, Inc.*, Patent Trial and Appeal Board Case CBM2013-00055. Served as an expert for petitioner, an eBay company, in a covered business method review of U.S. Patent [8,266,015](#), relating to methods of presenting lists of product customization options. Review was instituted but the CBM was terminated by settlement. Contact: [Scott McKeown, Esq.](#), [Ropes & Gray, L.L.P.](#), 2099 Pennsylvania Avenue, Washington, DC 20006-6807. (D,R)

159. *Fidelity National Information Services, Inc. v. Cashedge, Inc. and Checkfree Corporation*, Patent Trial and Appeal Board Cases CBM2013-00028, 30, 31 and 32. Served as

an expert for petitioner in covered business method reviews of U.S. Patents [7,383,223](#), [7,792,749](#), [7,853,524](#) and [7,966,311](#), relating to transferring funds in electronic payment networks. Reviews have been instituted. All claims of the four patents were invalidated by the PTAB in December 2014. Appeal was taken to the Federal Circuit but terminated by agreement. Contact: [Jeffrey A. Berkowitz, Esq.](#), [Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.](#), Two Freedom Square, 11955 Freedom Drive, Reston, VA 20190-5675. (D,R)

160. *Boku, Inc. v. Xilidev, Inc.*, Patent Trial and Appeal Board Cases CBM2014-00140 and CBM2014-00148. Served as an expert for petitioner in two covered business method reviews of U.S. Patent [7,273,168](#), relating to authorizing payments via handheld devices. Result: claims 1-18 and 20-23 found invalid. Claim 19 cancelled. Contact: [Frank Pietrantonio, Esq.](#), [Cooley LLP](#), One Freedom Square, 11951 Freedom Drive, Reston, VA 20190. (R)

161. *Protegrity Corporation v. Phoenix Payment Systems, Inc. d/b/a Electronic Payment Exchange*, Case No. 3:13-CV-1386-VKB (D. Conn.). Served as an expert for defendant in a case alleging infringement of U.S. Patents [6,321,201](#) and [8,402,281](#), relating to methods of encrypting databases. Case has settled. Contact: [David J. Wolfsohn, Esq.](#), [Duane Morris LLP](#), 20 South 17th Street, Philadelphia, PA 19103. (R)

162. *Ameranth, Inc. v. Genesis Gaming Solutions, Inc. et al.*, Case No. SACV 8:11-0189-AG (C.D. Cal.). Served as an expert for Ameranth in a case alleging infringement of U.S. Patents [7,431,650](#), [7,878,909](#) and [8,393,969](#), relating to systems for managing casino operations, particularly in poker rooms. Case has settled. Contact: John W. Osborne, Esq., Osborne Law LLC, 33 Habitat Lane, Cortlandt Manor, NY 10567. (D,R)

163. *Telebuyer, LLC v. Amazon.com, Inc.*, Case No. 2:13-cv-01677-BJR (W.D. Wash.). Served as an expert for Telebuyer in a case alleging infringement by Amazon.com of U.S. Patents [6,323,894](#), [7,835,508](#), [7,835,509](#), [7,839,984](#), [8,059,796](#), [8,098,272](#), and [8,315,364](#), relating to systems for interfacing buyers and sellers via communication networks. Summary judgment was entered declaring all asserted claims invalid under 35 U.S. §101. Contact: [Brian Berliner, Esq.](#), [O'Melveny & Myers LLP](#), 400 South Hope Street, Los Angeles, CA 90071. (D,R)

164. *GlobeRanger Corporation v. Software AG, et al.*, Civil Action No. 3:11-CV-403-B (N.D. Texas). Served as an expert for GlobeRanger in a case alleging misappropriation of trade secrets and civil conspiracy involving radio-frequency identification (RFID) software and business processes. Result: jury verdict of \$15 million in favor of GlobeRanger, upheld on appeal to the Fifth Circuit. Contact: [Ophelia Camiña, Esq.](#), [Susman Godfrey, L.L.P.](#), 901 Main St., Suite 5100, Dallas, TX 75202-3775. (D,R,T)

165. *In re: ProvideRx of Grapevine, LLC and CERx Pharmacy Partners, LP v. Provider Meds, LP, et al.*, Adv. Proc. No. 13-03015-BJH (Bankr. N.D. Tex). Served as an expert for creditor CERx in a Chapter 7 bankruptcy case involving security interests in software for remote dispensing pharmacies and whether certain licenses constitute encumbrances under Texas law. Case has settled. Contact: [Bill Whitehill, Esq.](#), [Gardere Wynne Sewell LLP](#), 1601 Elm St., Dallas, TX 75201. (R)

166. *Square, Inc. v. Protegrity Corporation*, CBM2014-00182, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [8,402,281](#), relating to methods of encrypting databases. Result: all claims invalid under §101. Contact: [Matthew Argenti, Esq.](#), [Wilson Sonsini Goodrich & Rosati Professional Corporation](#), 650 Page Mill Road, Palo Alto, CA 94304-1050. (D,R)

167. *VigLink, Inc. v. Linkgine, Inc.*, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in covered business method petitions 2014-00184 and 2014-00185 seeking review of U.S. Patents [7,818,214](#) and [8,027,883](#), relating to modifying affiliate links on webpages. Result: all challenged claims found invalid. Affirmed by the Federal Circuit at 2016-2087, 2016-2088. Contact: [Robert C. Hilton, Esq.](#), [McGuireWoods LLP](#), 2000 McKinney Ave., Suite 1400, Dallas, TX 75201. (R)

168. *Juhline et al. v. Ben Bridge Jewelers Inc. et al.*, Case 11-cv-2096-GPC-NLS (S.D. Cal.). Served as an expert for defendant Ben Bridge in a class action alleging violation of California Civil Code §1747.8, relating to the collection of personal identification information in connection with credit card transactions. Case has settled. Contact: [Rosemarie T. Ring, Esq.](#), [Munger, Tolles & Olson LLP](#), 560 Mission St., 27th Fl., San Francisco, CA 94105.

169. *Catch Curve, Inc. v. Integrated Global Concepts, Inc. v. j2 Global Communications, Inc. et al.*, Case 1:06-CV-02199 (N.D. Ga.). Served as an expert for defendant and counterclaim plaintiff Integrated Global Concepts in a case alleging infringement of U.S. Patents [4,994,926](#), [5,291,302](#), [5,459,584](#), [6,643,034](#), [6,785,021](#), [7,365,884](#) and [7,525,691](#), relating to store-and-forward fax systems. Infringement claims were dropped. The issue at bar is whether j2 Global had an objective basis to believe that Integrated Global was infringing. Case has settled. Contact: [James Heiser, Esq.](#), [Chapman and Cutler, LLP](#), 111 West Monroe St., Chicago, IL 60603. (D,R)

170. *Phoenix Payment Systems, Inc. v. Protegrity Corporation*, CBM2014-00121, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [8,402,281](#), relating to methods of encrypting databases. Underlying litigation settled before CBM could be instituted. Contact: [David J. Wolfsohn, Esq.](#), [Duane Morris LLP](#), 20 South 17th Street, Philadelphia, PA 19103. (R)

171. *Informatica Corporation v. Protegrity Corporation*, CBM2015-00010, CBM2015-00021, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in two covered business method petitions seeking review of U.S. Patents [8,402,281](#) and [6,321,201](#), relating to methods of encrypting databases. Result: all claims found invalid under 35 U.S.C. §101. The Board's opinions in the '[201 case](#)' and the '[281 case](#)' comment favorably on Dr. Shamos's testimony. Contact: [Mark S. Kaufman, Esq.](#), [Reed Smith LLP](#), 1301 K Street N.W., Washington, DC 20005. (D,R)

172. *Qualtrics, LLC v. OpinionLab, Inc.*, IPR2014-00314, IPR2014-00356, IPR2014-00366, IPR2014-00406, IPR2014-00420, and IPR2014-00421, Patent Trial and Appeal Board (2014). Served as an expert for patent owner OpinionLab, Inc. in *inter partes* reviews of U.S. Patents [6,421,724](#), [6,606,581](#), [8,041,805](#), [7,085,820](#), [7,370,285](#) and [8,024,668](#), relating to

methods of soliciting page-specific feedback regarding web pages. All challenged claims have been found invalid except as to the '805 patent. '724 was not instituted. Contact: [Chris Kennerly, Esq.](#), [Paul Hastings LLP](#), 1117 S. California Ave., Palo Alto, CA 94304. (D,R)

173. *Callwave Communications, LLC v. AT&T Mobility, LLC et al.*, Case 1:12-cv-01788-RGA (D. Del.). Served as an expert for defendant Research In Motion, Corp. in a case alleging infringement of U.S. Patent [7,907,933](#), relating to methods of billing for purchases by placing a call to a pay-per-call service. Plaintiff stipulated to non-infringement for appeal purposes, but the Federal Circuit upheld on January 10, 2017. Contact: [John V. Gorman, Esq.](#), [Morgan, Lewis & Bockius LLP](#), 1701 Market Street, Philadelphia, PA 19103.

174. *SoftVault Systems, Inc. v. Dassault Systèmes Solidworks Corporation*, Case 5:14-cv-03221-LHK (N.D. Cal.). Served as an expert for defendant Solidworks. in a case alleging infringement of U.S. Patents [6,249,868](#) and [6,594,765](#) relating to embedded agents for protecting computer systems against theft. Case has settled. Contact: [Cheryl T. Burgess, Esq.](#), [Knobbe, Martens, Olson & Bear, L.L.P.](#), 2040 Main Street, 14th Floor Irvine, CA 92614.

175. *PPS Data, LLC v. TransCentra, Inc.*, Case 13-359-LPS (D. Del.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [7,181,430](#), [7,440,924](#), [7,624,071](#) and [8,126,809](#), relating to methods for processing check images in electronic payment systems. Case has settled. Contact: [Anthony H. Son, Esq.](#), [Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006. (Original firm: Wiley Rein).

176. *Clear With Computers, Inc. v. Spanx, Inc.*, C.A. 6:12-cv-950-LED (E.D. Texas). Served as an expert for defendant, an eBay company, in a case alleging infringement of U.S. Patent [8,266,015](#), relating to methods of presenting lists of product customization options. Judgment on the pleadings was granted, invalidating the asserted claims under 35 U.S.C. §101. Case was appealed to the Federal Circuit, but the appeal with withdrawn. Case has settled. Contact: [Scott McKeown, Esq.](#), [Oblon, Spivak, McClelland, Maier & Neustadt, L.L.P.](#), 1940 Duke Street Underpass, Alexandria, VA 22314.

177. *Integrated Global Concepts, Inc. v. Advanced Messaging Technologies, Inc.*, IPR2014-01027 and IPR2014-01028 Patent Trial and Appeal Board (2014). Served as an expert for petitioner seeking *inter partes* review of U.S. Patents [6,020,980](#), relating to delivering faxes through electronic mail. The PTAB declined to institute review. Contact: [Robert J. Schneider, Esq.](#), [Taft Stettinius & Hollister LLP](#), 111 East Wacker, Suite 2800, Chicago, IL 60601. (R)

178. *athenahealth, Inc. v. AdvancedMD Software, Inc.*, Civil Action 1:11-cv-11260-GAO (D. Mass.). Served as an expert for plaintiff athenahealth, Inc. in a case alleging infringement of U.S. Patents [7,617,116](#) and [7,720,701](#), relating to detecting errors in medical insurance claim submissions and automated configuration of medical practice management systems. Case has settled. Contact: [Robert M. Abrahamsen, Esq.](#), [Wolf, Greenfield & Sacks, P.C.](#), 600 Atlantic Avenue, Boston, MA 02210.

179. *CEATS, Inc. v. Orbitz Worldwide, Inc.*, Civil Action 2:13-cv-01385-MMD-PAL (D. Nev.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents

[7,548,667](#), [7,640,178](#), [7,660,727](#), [8,219,448](#), [8,229,774](#) and [8,244,561](#), relating to systems and methods for managing airline seat reservations. Case has settled. Contact: [Jared Bunker, Esq., Knobbe, Martens, Olson & Bear, L.L.P.](#), 2040 Main Street, 14th Floor Irvine, CA 92614.

180. *Audatex North America, Inc. v. Mitchell International, Inc.*, Civil Action 3:13-cv-01523-BEN (BLM) (S.D. Cal.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [7,912,740](#), [8,200,513](#) and [8,468,038](#), relating to systems and methods for determining the valuation of a damaged vehicle for insurance purposes. Claims found invalid after CBM review, affirmed by the Federal Circuit. Contact: [David McPhie, Esq., Irell & Manella LLP](#), 840 Newport Center Dr., Newport Beach, CA 29660. (R)

181. *Skimlinks, Inc. et al. v. Linkgine, Inc.*, Patent Trial and Appeal Board (2015). Served as an expert for petitioners in covered business method petitions 2015-00086 and 2015-00087 seeking review of U.S. Patents [7,818,214](#) and [8,027,883](#), relating to modifying affiliate links on webpages. Result: all claims found invalid, affirmed by the Federal Circuit. Contact: [Richard F. Martinelli, Esq., Orrick, Herrington & Sutcliffe LLP](#), 51 West 52nd St., New York, NY 10019. (R)

182. *Advanced Auctions, LLC v. eBay, Inc.*, Case 12-cv-1612-BEN (JLB) (S.D. Cal.). Served as an expert for defendant eBay in case alleging infringement of U.S. Patent [8,266,000](#), relating to methods of conducting Internet auctions. Defendant obtained judgment of invalidity on the pleadings under 35 U.S.C. §101. Contact: [Adrian Percer, Esq., Weil, Gotshal & Manges, LLP](#), 201 Redwood Shores Parkway, Redwood Shores, CA 94065.

183. *MaxMind, Inc. et al. v. Fraud Control Systems.com Corporation*, CBM2015-00094, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [8,630,942](#), relating to methods of determining whether a payment transaction may be fraudulent based on IP addresses. Review was instituted on §101 grounds and Patent Owner requested adverse judgment. Contact: [Anthony H. Son, Esq., Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006. (R)

184. *Square, Inc. v. Unwired Planet, LLC*, CBM2014-00156, Patent Trial and Appeal Board (2014). Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [7,711,100](#), relating to conducting point-of-sale transactions based on the location of a wireless device. Challenged claims found invalid. Contact: [Sasha G. Rao, Esq., Maynard Cooper and Gale PC](#), 275 Battery St., San Francisco, CA 94111 (D,R)

185. *Unified Patents, Inc. v. Finnavaions LLC*, IPR2015-01209, Patent Trial and Appeal Board (2015). Served as an expert for petitioner in an inter partes review of U.S. Patent [8,132,720](#), relating to verifying online transaction data through a graphical user interface. Status: not instituted. Contact: [Paul C. Haughey, Esq., Kilpatrick Townsend & Stockton LLP](#), Eighth Floor, Two Embarcadero Center San Francisco, CA 94111 (R)

186. *Hoskin Hogan et al. v. BP West Coast Products LLC et al.*, Case BC 460880 (Super. Ct. Los Angeles Cty. CA, 2011). Served as an expert for defendant Retalix Ltd., alleging negligence in the development and testing of software for processing point-of-sale transactions. Summary

judgment granted in favor of Retalix. Contact: [Richard H. Zelichov, Esq.](#), [Katten Muchin Rosenman LLP](#), 2029 Century Park East, Suite 2600, Los Angeles, CA 90067-3012. (D,R)

187. *In re U.S. Patent Application 12/912,726* (USPTO). Served as an expert for applicant AlmondNet, Inc. in an application for a patent relating to distributing digital advertising based on a recipient profile. PTAB affirmed the Examiner's § 101 rejection. Contact: [Louis J. Hoffman, Esq.](#), [Hoffman Patent Firm](#). (R)

188. *Wickfire, LLC v. TriMax Media, Inc. et al.*, C.A. 1:14-CV-34 (W.D. Tex). Served as an expert for defendants in a case alleging click fraud in Internet advertising. Jury verdict for Plaintiff, reversed on appeal to the Fifth Circuit. Contact: [Barry M. Golden, Esq.](#), [Miller, Egan, Molter & Nelson LLP](#), 2911 Turtle Creek Blvd., Suite 1100 Dallas, TX 75219. (D,R,T)

189. *Square, Inc. v. Unwired Planet, LLC*, CBM2015-00148, Patent Trial and Appeal Board. Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [7,711,100](#), relating to conducting point-of-sale transactions based on the location of a wireless device. Not instituted because claims were found invalid under § 101 in CBM2014-00156. Contact: [Sasha G. Rao, Esq.](#), [Maynard Cooper and Gale PC](#), 275 Battery St., San Francisco, CA 94111. (D,R)

190. *Datatrak International Inc. v. Medidata Solutions, Inc.*, C.A. 1:11-cv-00458-PAG (N.D. Ohio). Served as an expert for defendant in a case alleging infringement of U.S. Patent [7,464,087](#), relating to federated database queries. Defendant obtained summary judgment of invalidity under 35 U.S.C. §101. Contact: [Duane-David Hough, Esq.](#), [Mayer Brown LLP](#), 1675 Broadway, New York, NY 10019. (R)

191. *SNMP Research, Inc. et al. v. Avaya, Inc.*, C.A. 1:12-cv-00191-RGA-MPT (D. Del.). Served as an expert for Avaya in an action alleging breach of contract, trade secret misappropriation and copyright infringement involving software implementing the Simple Network Management Protocol (SNMP). Case has settled. Contact: [Joshua Krumholz, Esq.](#), [Holland & Knight, LLP](#), 10 St. James Avenue, 11th Floor, Boston, MA 02116. (D,R)

192. *Certain Automated Teller Machines and Point of Sale Devices and Associated Software Therefor*, USITC Inv. No. 337-TA-958. Served as an expert for Respondents NRT Technology Corp. et al. in an International Trade Commission proceeding brought by Complainant Global Cash Access Inc. involving alleged infringement of U.S. Patent [6,081,792](#), relating to structuring ATM and POS transactions with respect to withdrawal limits. Result: all claims found invalid as indefinite. In [affirming](#) this determination, the Commission wrote: "should the extrinsic evidence be considered, the Commission finds NRT's expert testimony credible, see Rebuttal Expert Report of Michael Shamos Regarding Claim Construction ¶¶ 52-58, and that Everi's expert's testimony is not credible." Contact: [Colby B. Springer, Esq.](#), [Polsinelli LLP](#) (formerly at Lewis Roca Rothgerber LLP), Three Embarcadero Center, Suite 1350, San Francisco, CA 94111. (D,R)

193. *Better Mouse Company, L.L.C. v. SteelSeries ApS, Inc. et al.*, C.A. 2:14-cv-198-JRG (E.D. Texas). Served as an expert for defendant in a case alleging infringement of U.S. Patent

[7,532,200](#), relating to computer mouse whose resolution can be set without external software. Dr. Shamos testified at trial on non-infringement. The jury found for defendant on non-infringement. Contact: [Joshua M. Masur, Esq.](#), [Zuber Lawler & Del Duca LLP](#), 2000 Broadway, Suite 154, Redwood City, California 94063. (Original firm: [Turner Boyd LLP](#)) (R,T)

194. *Vesta Corporation v. Amdocs Management Limited et al.*, No. 3:14-cv-01142-HZ (D. Ore.). Served as an expert for defendants in a case alleging misappropriation of trade secrets relating to billing in the prepaid mobile phone payment processing market. Case has settled. Contact: [Yonaton M. Rosenzweig, Esq.](#), [Katten Muchin Rosenman LLP](#), 2029 Century Park East, Suite 2600, Los Angeles, CA 90067-3012. (D,R)

195. *Benefit Funding Systems, LLC et al. v. U.S. Bancorp*, CA 1:12-cv-00803-LPS (D.Del.). Served as an expert for defendant U.S. Bancorp in an action alleging infringement of U.S Patent [6,625,582](#), relating to a method of establishing a financial account based on the present value of future retirement payments. All asserted claims were found invalid under 35 U.S.C. §101, a decision affirmed by the Federal Circuit. Contact: [Anthony H. Son, Esq.](#), [Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006. (Original firm: Wiley Rein).

196. *Telesign Corporation v. Twilio, Inc.*, C.A. 3:18-cv-03279-VC (N.D. Cal.). Served as an expert for defendant Twilio in an action alleging infringement of U.S. Patent [7,945,034](#), relating to verification of telephone users based on characteristics of the telephone number, such as carrier and geographic location. Defendant successfully resisted issuance of a preliminary injunction. Case is stayed pending PTAB review. After PTAB review, Twilio's motion for judgment on the pleadings was granted. Contact: [Thomas J. Friel, Jr., Esq.](#), [Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

197. *Cronos Technologies, LLC v. Expedia, Inc.*, C.A. 13-1538-LPS (D. Del.), *Cronos Technologies, LLC v. Priceline.com, Inc.*, C.A. 13-1541-LPS (D. Del.) and *Cronos Technologies, LLC v. Travelocity.com L.P.*, C.A. 13-1544-LPS (D. Del.). Served as an expert for defendants in three cases, consolidated for some purposes, in actions alleging infringement of U.S. Patent [5,664,110](#), relating to a remote ordering system enabling a user to build lists of products to be ordered. The Court found non-infringement on summary judgment, affirmed unanimously by the Federal Circuit. Contact: [Matthew C. Acosta, Esq.](#), [Jackson Walker LLP](#), KPMG Plaza at Hall Arts, 2323 Ross Avenue, Suite 600, Dallas, TX 75201. (D,R)

198. *Ex Parte Reexamination of U.S. Patent 7,333,430*, Control No. 90/013,532. Served as an expert for patent owner Fortinet, Inc. in a reexamination of U.S. Patent [7,333,430](#), drawn to distributing network packets for intermediate security processing based on the ultimate destination of the packet. Result: all challenged claims and newly presented claims patentable. Contact: [Michael A. DeSanctis](#), [Hamilton DeSanctis & Cha LLP](#), Financial Plaza at Union Square, 225 Union Boulevard, Ste. 150, Lakewood, CO 80228. (R)

199. *Inter Partes Review of U.S. Patent 7,027,411*. Case IPR2015-00717. Served as an expert for patent owner Hewlett-Packard Company in an inter partes review of U.S. Patent [7,027,411](#), drawn to efficient determination of changes in network topology. Status: settled. Contact:

[Monica Grewal](#), Esq., [Wilmer Cutler Pickering Hall and Dorr LLP](#), 60 State Street, Boston, MA 02109. (D,R)

200. *Intellectual Ventures I LLC v. Nextel Operations, Inc. and Sprint Spectrum L.P.*, C.A. No. 13-1634 (D.Del) and related cases 13-1635; *Intellectual Ventures I LLC v. T-Mobile USA, Inc. et al.*, C.A. No. 13-1632; 13-1633; *Intellectual Ventures I LLC v. United States Cellular Corporation*, C.A. No. 13-1636 and related case 13-1637, all D. Del. Served as an expert for defendants Sprint, T-Mobile and U.S. Cellular in related cases alleging infringement of U.S. Patent [6,115,737](#), drawn to use of an Internet gateway for processing customer service requests to a web server. The Court invalidated the '737 patent on §101 grounds. Contact: [Jason W. Cook, Esq., McGuireWoods LLP](#), 2000 McKinney Ave., Suite 1400, Dallas, TX 75201. (D,R)

201. *Ex Parte Reexamination of U.S. Patent 7,968,744*, Control No. 90/013,533. Served as an expert for patent owner Fortinet, Inc. in a reexamination of U.S. Patent [7,968,744](#), drawn to systems and methods for allowing execution of authorized computer code and for protecting computer systems and networks from unauthorized code execution. Result: challenged claim and 14 new claims determined patentable. Contact: [Michael A. DeSanctis, Hamilton DeSanctis & Cha LLP](#), Financial Plaza at Union Square, 225 Union Boulevard, Ste. 150, Lakewood, CO 80228. (R)

202. *Ex Parte Reexamination of U.S. Patent 7,376,125*, Control No. 90/013,531. Served as an expert for patent owner Fortinet, Inc. in a reexamination of U.S. Patent [7,376,125](#), drawn to a virtual routing engine for software-based packet routing. Result: newly presented claims patentable. Contact: [Michael A. DeSanctis, Hamilton DeSanctis & Cha LLP](#), Financial Plaza at Union Square, 225 Union Boulevard, Ste. 150, Lakewood, CO 80228. (R)

203. *Twilio, Inc. v. Telesign Corporation*, IPR2016-00360. Served as an expert for requester Twilio in an *inter partes* review of U.S. Patent [7,945,034](#), relating to verification of telephone users based on characteristics of the telephone number, such as carrier and geographic location. Challenged claims confirmed. Contact: [Thomas J. Friel, Jr., Esq., Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (D,R)

204. *Twilio, Inc. v. Telesign Corporation*, IPR2016-00450, Patent Trial and Appeal Board (2016). Served as an expert for petitioner in an *inter partes* review of U.S. Patent [8,462,920](#), relating to verification of telephone users based on characteristics of the telephone number, such as carrier and geographic location. Trial was not instituted. Contact: [Carrie J. Richie, Esq., Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

205. *Smart Systems Innovations, LLC v. Chicago Transit Authority, et al.*, C.A. 14-cv-08053 (N.D. Ill.). Served as an expert for defendants in an action alleging infringement of U.S. Patent [5,828,044](#), relating to a radio-frequency ID (RFID) credit card system. Defendant successfully resisted issuance of a preliminary injunction. All claims invalidated as non-statutory under 35 U.S.C. §101. Affirmed by the Federal Circuit in October 2017. Contact: [Jeffrey M. Connor, Esq.](#), formerly at Kilpatrick Townsend & Stockton LLP, now IP counsel at Honeywell. (D,R)

206. *Unwired Planet LLC v. Google, LLC*, C.A. 3:12-cv-00504-MMD-VPC (D. Nevada). Served as an expert for Google in an action alleging infringement of U.S. Patents [6,292,657](#), [6,654,786](#), [6,662,016](#), [6,684,087](#), [6,895,240](#), [6,944,760](#), [7,024,205](#), [7,035,647](#), [7,203,752](#) and [7,463,151](#), relating to provision of wireless services. All asserted claims of the '151, '205 and '751 patents have been found invalid by the Patent Trial and Appeal Board. After appeal to the Federal Circuit, the case continued with respect to certain claims of the '752 Patent but these were dismissed by stipulation. Contact: [Peter E. Gratzinger, Esq.](#), [Munger, Tolles & Olson LLP](#), 355 South Grand Avenue, Los Angeles, CA 90071.

207. *Xilidev, Inc. v. Boku, Inc. et al.*, C.A. 3:13-cv-02793 (S.D. Cal.). Served as an expert for defendants in an action alleging infringement of U.S. Patent [7,273,168](#), relating to point-of-sale billing on handheld devices. Claims 1-18 and 20-23 of the '168 patent have been found invalid by the Patent Trial and Appeal Board. Plaintiff agreed to a voluntary dismissal with prejudice. Contact: [Frank Pietrantonio, Esq.](#), [Cooley LLP](#), One Freedom Square, 11951 Freedom Drive, Reston, VA 20190.

208. *Intellectual Ventures II LLC v. Commerce Bancshares, Inc. et al.*, C.A. 2:13-CV-04160 (W.D. Mo.). Served as an expert for defendants in an action alleging infringement of U.S. Patents [5,745,574](#), relating to security in electronic transactions, [6,314,409](#) and [6,826,694](#), relating to controlling access to digital property, [6,715,084](#), relating to intrusion detection, and [7,634,666](#), relating to a cryptographic engine. All asserted claims have been declared invalid by the Patent Trial and Appeal Board. Decision affirmed by the Federal Circuit in December 2016. Contact: [Mark Vander Tuig, Esq.](#), [Senniger Powers LLP](#), 100 North Broadway, 17th Floor, St. Louis, MO 63102.

209. *Hy-Vee, Inc. v. Inmar Digital Promotions Network, Inc.*, C.A. 4:15-cv-00275 (S.D. Iowa). Served as an expert for defendant in an action seeking indemnity for infringement of U.S. Patents [8,219,445](#), [8,370,199](#) and [8,538,805](#), relating to point-of-sale processing of promotions, such as coupons. Hy-Vee had been sued for infringing these patents in *Advanced Marketing Systems, LLC v. Hy-Vee, Inc.*, C.A. 3:15-cv-00103 (W.D. Wisc.). Both cases have settled. Contact: [Richard J. Keshian, Esq.](#), [Kilpatrick Townsend & Stockton LLP](#), 1001 West Fourth Street Winston-Salem, NC, 27101. (R)

210. *Motivation Innovations, LLC v. PetSmart, Inc.*, C.A. 1:13-cv-00957 (D.Del.). Served as an expert for defendant in an action alleging infringement of U.S. Patent [5,612,527](#), relating to a system for redeeming discount offers at point of sale. On motion for judgment on the pleadings, all asserted claims were found invalid under 35 U.S.C. §101. Contact: [Kevin A. Zeck, Esq.](#), [Perkins Coie, LLP](#), 1201 Third Avenue, Suite 4900, Seattle, WA 98101-3099.

211. *PPS Data, LLC v. VSoft Corporation et al.*, Case 1:15-cv-00084 (N.D. Ga.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [7,181,430](#), [7,216,106](#), [7,440,924](#), [7,624,071](#) and [8,660,956](#), relating to methods for processing check images in electronic payment systems. Case has settled. Contact: [Anthony H. Son, Esq.](#), [Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006 (original firm Andrews Kurth).

212. *Sally Beauty Holdings et al. v. Intellectual Ventures I LLC*, CBM2016-00029, Patent Trial and Appeal Board. Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [5,969,324](#), relating to accounting methods utilizing a non-predictable bar code. Trial was instituted, the PTAB writing in its [decision](#): "We credit the testimony of Dr. Michael Shamos." Case has settled. Contact: [Derek Swanson, Esq., McGuireWoods LLP](#), Gateway Plaza, 800 East Canal Street, Richmond, VA 23219. (R)

213. *Square, Inc. v. Protegrity Corporation*, CBM2015-00014, Patent Trial and Appeal Board (2016). Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [6,321,201](#), relating to methods of encrypting databases. Result: all challenged claims found invalid under 35 U.S. §§101 and 103. Contact: [Matthew Argenti, Esq., Wilson Sonsini Goodrich & Rosati Professional Corporation](#), 650 Page Mill Road, Palo Alto, CA 94304-1050. (R)

214. *T-Mobile US, Inc. v. Intellectual Ventures II LLC*, CBM2016-00083, Patent Trial and Appeal Board. Served as an expert for petitioner in a covered business method petition seeking review of U.S. Patent [6,115,737](#), relating to use of an Internet gateway for processing customer service requests to a web server. The PTAB determined that the patent did not claim a covered business method. Contact: [Alison R. Watkins, Esq., Gibson, Dunn & Crutcher LLP](#), 1881 Page Mill Road, Palo Alto, CA 94304-1211. (R)

215. *Twin Peaks Software, Inc. v. IBM Corporation*, Case 3:14-cv-03933-JST (N.D. Cal.). Served as an expert witness for defendant IBM in an action alleging infringement of U.S. Patent [7,418,439](#), relating to a system for storing and sharing networked files. All asserted claims found invalid during claim construction. Contact: [Andrew Bramhall, Esq., Quinn Emanuel Urquhart & Sullivan, LLP](#), 555 Twin Dolphin Drive, 5th Floor, Redwood Shores, CA 94065-2139.

216. *Live Face on Web, LLC v. The Control Group Media Company, Inc. et al.*, Case 2:15-cv-01306 (E.D. Pa.). Served as an expert witness for defendants in an action alleging breach of contract and infringement of copyrights relating to web media players and video productions in which recorded actors promote products for websites. Case has settled. Contact: [Damon W.D. Wright, Esq., Venable LLP](#), 575 Seventh St. N.W., Washington, DC 20004.

217. *Nomadix, Inc. v. Hospitality Core Services, LLC*, Case 2:14-cv-08256-DDP (C.D. Cal.) Served as an expert witness for defendant in a case alleging infringement of U.S. Patents [6,636,894](#) and [6,868,399](#), relating to network gateways, U.S. Patent [7,698,432](#), relating to bandwidth management, U.S. Patent [7,953,857](#), relating to dynamic data transfer over networks, U.S. Patent [8,266,266](#), relating to dynamic network authorization, and U.S. Patents [8,156,246](#), [8,266,269](#), [8,364,806](#), [8,725,888](#) and [8,788,690](#), relating to providing network content. Case has settled. Contact: Michael J. Mehrman, [Merhman Law Office, P.C.](#), 150 Spalding Creek Court, Sandy Springs, GA 30350.

218. *Certain Digital Video Receivers and Hardware and Software Components Thereof*, USITC Inv. No. 337-TA-1001. Served as an expert for Complainants Rovi Corporation et al. against Comcast Corporation et al. in an International Trade Commission proceeding involving alleged infringement of U.S. Patents [8,006,263](#), [8,046,801](#) and [8,578,413](#), relating to remote

and local electronic TV program guides. On Final Determination, a violation was found with respect to the '263 and '413 patents. [Affirmed](#) by the Federal Circuit on March 20, 2020. Contact: [Richard A. Kamprath, Esq.](#), [McKool Smith](#), 300 Crescent Court, Suite 1500, Dallas, TX 75201. (D,R,T)

219. *ZKey Investments, LLC v. Facebook, Inc.*, Case 2:16-cv-00782-RSWL-KS (C.D. Cal.). Served as an expert for defendant in a case alleging infringement of U.S. Patent [6,820,204](#), relating to providing granular control over access to data. Result: all claims found invalid under §101. Affirmed by the Federal Circuit on Jan. 10, 2018. Contact: [Andrew C. Mace, Esq.](#), [Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

220. *In re: The Matter of the 2016 Presidential Election*, 659 MD 2016 (Pa. Cmwlth. Ct., 2016). Served as an expert for intervenors opposing an action brought seeking a recount of votes in Pennsylvania on the grounds that the state's voting systems are unsecure and vulnerable to hacking by foreign actors. Petitioners discontinued the suit before hearing, refusing to post the required bond. Contact: [Lawrence J. Tabas, Esq.](#), [Obermayer Rebmann Maxwell & Hippel LLP](#), One Penn Center, 19th Floor, 1617 John F. Kennedy Blvd., Philadelphia, PA 19103.

221. *Stein v. Cortés*, Case 2:16-cv-06287-PD (E.D. Pa.). Served as an expert for defendant Secretary of the Commonwealth of Pennsylvania in an action for a mandatory injunction to compel a recount and forensic examination of voting systems. Result: injunction denied. The Court's [memorandum](#) comments favorably on Dr. Shamos's qualification and testimony. Most claims have been dismissed on summary judgment. Case has settled. Contact: [Timothy Gates, Esq.](#), Chief Counsel, PA Department of State, 3306 North Office Bldg., Harrisburg, PA 17120. (R,T)

222. *Free Stream Media Corp. (d.b.a. Samba) v. Alphonso Inc.*, Case No. 3:17-cv-02107 (N.D. Cal., transferred from E.D. Tex.). Served as an expert for defendant Alphonso in an action alleging infringement of U.S. Patents [9,026,668](#) and [9,386,356](#), relating to a system for targeting data, such as advertising, to a device, such as a tablet, based on content that is identified as playing on a different device, such as a television. Alphonso won summary judgment of non-infringement. Contact: [Neel Chatterjee, Esq.](#), [Goodwin Procter LLP](#), 601 Marshall Street, Redwood City, CA 94063. (D,R)

223. *Copart, Inc. v. Sparta Consulting, Inc.*, Case 2:14-cv-00046-KJM-CKD (E.D. Cal.). Served as an expert for defendant Sparta in an action alleging misappropriation of trade secrets relating to imaging batches of items to be offered at auction. Misappropriation counts were dropped during trial. Contact: [Frederick Brown, Esq.](#), [Gibson, Dunn & Crutcher LLP](#), 555 Mission Street, Suite 3000, San Francisco, CA 94105. (D,R)

224. *Apple Inc. v. Masa LLC.*, IPR2016-00748, Patent Trial and Appeal Board (2016). Served as an expert for patent owner in an *inter partes* review of U.S. Patent [8,519,834](#), relating to a wearable device to alert a user to an incoming cellphone call. All challenged claims found invalid. Affirmed by the Federal Circuit. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (R)

225. *Tele-Publishing, LLC v. Facebook, Inc. et al.*, Case 1:09-cv-11686-DPW (D. Mass.). Served as an expert for defendants in a case alleging infringement of U.S. Patent [6,253,216](#), relating to controlling access to information on personal web pages. Result: all claims found invalid under §101; judgment for defendants. Case settled during appeal to the Federal Circuit. Contact: [Reuben Chen, Esq.](#), [Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

226. *Groupon, Inc. v. International Business Machines Corporation*, Case 1:16-cv-5064 (N.D. Ill.). Served as an expert for Groupon in a case alleging infringement of U.S. Patent [7,856,360](#), relating to gathering information from attendees at a venue. Case has settled. Contact: [Saina Shamilov, Esq.](#), [Fenwick & West LLP](#), 801 California Street, Mountain View, CA 94041. (R)

227. *Stingray Digital Group Inc. v. Music Choice*, Patent Trial and Appeal Board. Served as an expert for petitioner in five *inter partes* reviews of U.S. Patents [7,320,025](#) (IPR2017-00888) and [9,351,045](#) (IPR2017-01191), relating to providing supplementing a broadcast media service with an on-demand, personalized media service and U.S. Patents [8,769,602](#) (IPR2017-01192), [9,357,245](#) (IPR2017-1193, IPR 2018-0114), relating to providing a visual complement to an audio program, and [9,414,121](#) (IPR 2017-1450), relating to systems and methods for providing on-demand entertainment. Trial has been instituted in '025, '045, '121 and '602. Patent owner requested adverse judgment in IPR2017-1193. Two claims survived in IPR2018-00114. Contact: [Heath Briggs, Esq.](#), [Greenberg Traurig, LLP](#), 1200 17th St., Suite 2400, Denver, CO 80202. (D,R)

228. *Music Choice v. Stingray Digital Group Inc. et al.*, C.A. No. 2:16-CV-0586-JRG-RSP (E.D. Texas). Served as an expert for defendants in a case alleging infringement U.S. Patents [7,320,025](#) and [9,351,045](#), relating to providing supplementing a broadcast media service with an on-demand, personalized media service, U.S. Patents [8,769,602](#) and [9,357,245](#), relating to providing a visual complement to an audio program, and U.S. Patent [9,414,121](#), relating to systems and methods for providing on-demand entertainment. Case has settled. Contact: [Joshua Raskin, Esq.](#), [Greenberg Traurig, LLP](#), MetLife Bldg., 200 Park Avenue, New York, NY 10166. (R)

229. *LivePerson, Inc. v. 24[7] Customer, Inc.*, IPR2017-00609, Patent Trial and Appeal Board. Served as an expert for patent owner in an *inter partes* review of U.S. Patent [6,970,553](#), relating to converting a voice call into a chat session. Four of six challenged claims were not found unpatentable. Contact: [Bill Trac, Esq.](#), [O'Melveny & Myers LLP](#), Two Embarcadero Center, 28th Floor, San Francisco, CA 94111. (R)

230. *Blackberry Limited v. Blu Products, Inc.*, Case 1:16-cv-23535-FAM (S.D. Fla.). Served as an expert for defendants in a case alleging infringement of 15 patents, including U.S. Patent [6,271,605](#), relating to a battery disconnect system, U.S. Patent [8,169,449](#), relating to a multilayer graphics controller, and U.S. Patent [8,411,845](#), relating to the display of call logs on mobile phones. Case has settled. Contact: [Victor Castellucci, Esq.](#), [Cozen O'Connor](#), 2 South Biscayne Blvd., 30th Floor, Miami, FL 33131. (R)

231. *Twitter, Inc. v. YouToo Technologies, LLC.*, Patent Trial and Appeal Board. Served as an expert for patent owner in two *inter partes* reviews of U.S. Patent [9,083,997](#) (IPR2017-00829,

IRP2017-00830), relating to publishing content on social media sites. Trial has been instituted. Contact: [Samuel E. Joyner, Esq.](#), [Carrington, Coleman, Sloman & Blumenthal, LLP](#), 901 Main Street, Suite 5500, Dallas, TX 75202. (R)

232. *IPDEV Co. v. Ameranth, Inc.*, Case No. 3:14-cv-01303-GPC-JLB (S.D. Cal.). Served as an expert for defendant in an action to determine priority of invention among interfering patents involving U.S. Patents [6,384,850](#) and [6,871,325](#), assigned to Ameranth and relating to synchronous updating of restaurant menus on wireless devices, and U.S. Patents [5,991,739](#) and [8,738,449](#), relating to Internet ordering methods. Consolidated with Case 233, below. On summary judgment, the Court awarded priority to Ameranth. Contact: John W. Osborne, Esq., Osborne Law LLC, 33 Habitat Lane, Cortlandt Manor, NY 10567. (D,R)

233. *In re: Ameranth Patent Litigation*, Case No. 3:11-cv-01810-DMS-WSG (S.D. Cal.). Served as an expert for Ameranth in an action against numerous defendants alleging infringement of U.S. Patents [8,146,077](#), relating to synchronous updating of restaurant menus on wireless devices. All asserted claims were found invalid under 35 U.S.C. § 101, affirmed by the Federal Circuit. Contact: John W. Osborne, Esq., Osborne Law LLC, 33 Habitat Lane, Cortlandt Manor, NY 10567. (D,R)

234. *Google Inc. v. Spring Ventures, Ltd.*, IPR2017-01652 and 01653, Patent Trial and Appeal Board. Served as an expert for petitioner in *inter partes* reviews of U.S. Patent [8,661,094](#), relating to WWW addressing. Trial instituted in 2017-01653, denied in 2017-01652. Result: all claims of the '094 patent were determined to be unpatentable. Affirmed on appeal to the Federal Circuit. At [oral argument](#), Dr. Shamos's qualifications were challenged unsuccessfully. Contact: [Scott McKeown, Esq.](#), [Ropes & Gray, L.L.P.](#), 2099 Pennsylvania Avenue, Washington, DC 20006-6807. (D,R)

235. *Rovi Guides, Inc. et al. v. Comcast Corporation et al.*, Case No. 1:16-cv-09278-JPO (S.D.N.Y.). Served as an expert for plaintiffs in an action alleging infringement of U.S. Patent [8,713,595](#), relating to electronic TV program guides and [9,172,987](#), relating to the use of markup language to alter the functionality of set-top boxes. Case has settled. Contact: [Richard A. Kamprath, Esq.](#), [McKool Smith](#), 300 Crescent Court, Suite 1500, Dallas, TX 75201. (D,R)

236. *StrikeForce Technologies, Inc. v. Entrust, Inc. et al.*, Case No. 1:17-cv-00309-LMB-TCB (E.D. Va.). Served as an expert for plaintiff in an action alleging infringement of U.S. Patents [8,484,698](#), and [8,713,701](#), relating to out-of-band authentication using mobile devices. Case has settled. Contact: [Josef Schenker, Esq.](#), [Ropes & Gray LLP](#), 1211 Avenue of the Americas, New York, NY 10036. (R)

237. *Level One Technologies, Inc. v. Penske Truck Leasing Co, Inc. and Penske Logistics, LLC*, Case No. 4:14-cv-1305-RWS (E.D. Mo.). Served as an expert for defendant in an action alleging trade secret misappropriation and contractual breach of confidentiality relating to a computer system for invoicing and rendering electronic payments in the trucking industry. Case has settled. Contact: [Douglas Y. Christian, Esq.](#), [Ballard Spahr LLP](#), 1735 Market Street, 51st Floor, Philadelphia, PA 19103. (D,R)

238. *Uniloc USA Inc. et al. v. Netsuite Inc.*, Case No. 2:16-cv-00862-RWS (E.D. Texas) and *Uniloc USA Inc. et al. v. Nutanix Inc.*, Case No. 2:16-cv-01193-RWS (E.D. Texas). Served as an expert for plaintiff on claim construction issues in an action alleging infringement of U.S. Patent [6,324,578](#), relating to management of configurable application programs on a network. Later, the asserted claims were found invalid under 35 U.S.C. § 101. Contact: [James J. Foster, Esq.](#), [Prince Lobel Tye LLP](#), One International Place, Suite 3700, Boston, MA 02110. (R)

239. *Muransky v. The Cheesecake Factory, Inc. et al.*, Case 2:17-cv-07569-CJC-RAO (C.D. Cal). Served as an expert for defendants in a case involving alleged violations of the Fair Credit Reporting Act, 15 U.S.C. § 1681 ("FCRA") arising from display of more than five digits of a credit card number on customer receipts. Case has settled. Contact: [John L. McManus, Esq.](#), [Greenberg Traurig, P.A.](#), 401 E. Los Olas Blvd., Suite 2000, Fort Lauderdale, FL 33301. (R)

240. *Twilio, Inc. v. Telesign Corporation*, IPR2016-00451, Patent Trial and Appeal Board (2016). Served as an expert for petitioner in an *inter partes* review of U.S. Patent [8,687,038](#), relating to verifying an online registration via an out-of-band telephone connection. Trial was not instituted. Contact: [Carrie J. Richie, Esq.](#), [Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

241. *Twilio, Inc. v. Telesign Corporation*, IPR2016-01688, Patent Trial and Appeal Board (2016). Served as an expert for petitioner in an *inter partes* review of U.S. Patent [9,300,792](#), relating to verification of telephone users based on characteristics of the telephone number, such as carrier and geographic location. All challenged claims found unpatentable. Contact: [Carrie J. Richie, Esq.](#), [Cooley LLP](#), 3175 Hanover Street, Palo Alto, CA 94304. (R)

242. *EdiSync Systems, LLC v. Adobe Systems, Inc.*, Civil Action 12-cv-02231-MSK-MEH (D. Colo.). Served as an expert for Defendant Adobe in a case alleging infringement of U.S. Patent [5,799,320](#), relating to multi-author document editing systems. Case has settled. Contact: [David Sipiora, Esq.](#), [Kirkpatrick Townsend & Stockton LLP](#), Suite 600, 1400 Wewatta Street, Denver, CO 80202.

243. *Ford Motor Company v. Versata Software, Inc. et al.*, Case No. 2:15-cv-10628-MFL-EAS (E.D. Mich.). Serving as an expert for defendant/counter-plaintiff Versata in a declaratory judgment action relating to alleged infringement of U.S. Patents [5,825,651](#), [6,405,308](#) and [6,675,294](#), relating to product configuration through a graphical user interface; U.S. Patent [7,882,057](#), relating to complex product configuration using submodels; U.S. Patents [7,200,582](#) and [7,464,064](#), relating to checking the consistency of a product configuration model using set equations; and U.S. Patent [8,805,825](#), relating to product configuration in which attributes are prioritized. Contact: [Steve Mitby, Esq.](#), [Ahmad, Zavitsanos, Anaipakos, Alavi & Mensing P.C.](#), 1221 McKinney, Suite 2500, Houston, TX 77010. (D,R)

244. *Improved Search LLC v. Microsoft Corporation*, C.A. No. 16-cv-650-JFB-SRF (D.Del.). Served as an expert for plaintiff in an action alleging infringement of U.S. Patents [6,604,101](#) and [7,516,154](#), relating to methods and systems for translanguag searching. Plaintiff sought a judgment of non-infringement so claim constructions could be appealed to the Federal Circuit.

Result: affirmed. Contact: [Robert Yorio, Esq.](#), [Carr & Ferrell LLP](#), 120 Constitution Drive, Menlo Park, CA 94025. (D,R)

245. *Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2017-00866, IPR2017-00867, Patent Trial and Appeal Board. Served as an expert for patent owner in *inter partes* reviews of U.S. Patent [8,713,595](#), relating to electronic television program guides. All challenged claims found unpatentable. Contact: [Josef B. Schenker](#), [Ropes & Gray LLP](#), 1211 Avenue of the Americas, New York, NY 10036. (D,R)

246. *Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2017-00950, IPR2017-00951, IPR2017-00952, Patent Trial and Appeal Board. Served as an expert for patent owner in *inter partes* reviews of U.S. Patent [8,006,263](#), relating to electronic television program guides. All challenged claims found unpatentable. Contact: [Josef B. Schenker](#), [Ropes & Gray LLP](#), 1211 Avenue of the Americas, New York, NY 10036. (D,R)

247. *Unified Patents, Inc. v. Anuwave LLC.*, IPR2018-00223, Patent Trial and Appeal Board. Served as an expert for petitioner in *inter partes* reviews of U.S. Patent [8,295,862](#), relating to enabling short message system (SMS) communication without using IP services. Terminated by settlement. Contact: [Robert High, Esq.](#), [Finnegan, Henderson, Farabow, Garrett & Dunner, LLP](#), 271 17th St. N.W., Suite 1400, Atlanta, GA 30363-6209. (R)

248. *Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2017-01048, IPR2017-01049, IPR2017-01050, Patent Trial and Appeal Board. Served as an expert for patent owner in *inter partes* reviews of U.S. Patent [8,578,413](#), relating to electronic television program guides. All challenged claims found unpatentable. Contact: [Josef B. Schenker](#), [Ropes & Gray LLP](#), 1211 Avenue of the Americas, New York, NY 10036. (D,R)

249. *Comcast Cable Communications, LLC v. Rovi Guides, Inc.*, IPR2017-01065, IPR2017-01066, IPR2017-01143, Patent Trial and Appeal Board. Served as an expert for patent owner in *inter partes* review of U.S. Patent [8,046,801](#), relating to electronic television program guides. All challenged claims found unpatentable. Contact: [Josef B. Schenker](#), [Ropes & Gray LLP](#), 1211 Avenue of the Americas, New York, NY 10036. (D,R)

250. *DevFactory FZ-LLC v. Magnitude Software, Inc.*, Arbitration WIPOA300617. Served as an expert for Claimant DevFactory in an arbitration relating to a claim of breach of a software Technology Services Agreement. Arbitration has terminated. Contact: [Steve Mitby, Esq.](#), [Ahmad, Zavitsanos, Anaipakos, Alavi & Mensing P.C.](#), 1221 McKinney, Suite 2500, Houston, TX 77010.

251. *BookIT Oy Ajanvarauspalvelu v. Bank of America Corporation et al.*, 3:17-cv-02577-K (N.D. Texas). Served as an expert for BookIT in an action alleging infringement of U.S. Patents [8,589,194](#) and [9,177,268](#), relating to mediating communications between a service provider and a user in a telecommunications network. Plaintiff sought a judgment of non-infringement so that claim constructions could be appealed to the Federal Circuit, which affirmed. Contact:

[Richard A. Kamprath, Esq.](#), [McKool Smith](#), 300 Crescent Court, Suite 1500, Dallas, TX 75201. (D,R)

252. *Promptu Systems Corporation v. Comcast Corporation et al.*, 2:16-cv-06516-JS (E.D. Pa.). Serving as an expert for plaintiff in an action alleging infringement of U.S. Patents [7,047,196](#), [7,260,538](#) and [RE44,326](#), relating to voice control of television set-top boxes. Case is stayed pending PTAB review on remand from the Federal Circuit. Contact: [Robert Yorrio, Esq.](#), [Carr & Ferrell LLP](#), 120 Constitution Drive, Menlo Park, CA 94025. (D,R)

253. *Snap Inc. v. Vaporstream, Inc.*, IPR2018-00200, IPR2018-00312, IPR2018-00369, IPR2018-00397, IPR2018-00404, IPR2018-00408, IPR2018-00416, IPR2018-00439, IPR2018-00455, IPR2018-00458, Patent Trial and Appeal Board. Served as an expert for patent owner in *inter partes* reviews of U.S. Patents [8,886,739](#), [8,935,351](#), [9,306,885](#), [9,306,886](#), [9,313,155](#), [9,313,156](#), [9,313,157](#), [9,338,111](#) and [9,413,711](#), relating to reducing traceability of electronic messages. In IPR2018-00312, IPR2018-00369, IPR2018-00404 and IPR2018-00408 and IPR2018-00458, all challenged claims were found unpatentable. In IPR2018-00397, IPR2018-00416, IPR2018-00439 and IPR2018-00455, and IPR2018-00458, all challenged claims were found patentable. Contact: [Douglas R. Wilson, Esq.](#), [Heim, Payne & Chorush, LLP](#), Heritage Plaza, 111 Bagby, Suite 2100, Houston, TX 77002. (R)

254. *Shopify, Inc. v. DDR Holdings, LLC*, IPR2018-01008, IPR2018-01009, IPR2018-01010, IPR2018-01011, IPR2018-01012, IPR2018-01014, Patent Trial and Appeal Board. Served as an expert for petitioner in *inter partes* reviews of U.S. Patents [8,515,825](#), [9,043,228](#), and [9,639,876](#), relating to online affiliate marketing. In 2018-01008 and 2018-01009, the PTAB found all challenged claims patentable. In 2018-01010, 2018-01011, 2018-01012 and 2018-01014, the PTAB found most challenged claims unpatentable, affirmed by the Federal Circuit in 2018-01011, 2018-01012 and 2018-01014. Contact: [Jinnie L. Reed, Esq.](#), [Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.](#), One Financial Center, Boston. MA 02111. (D,R)

255. *Election Systems & Software, LLC v. Dominion Voting Systems, Inc.*, 1:17-cv-01172-CJB (D. Del.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [8,991,701](#), relating to an accessible voting system. Case has settled. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105.

256. *General Motors LLC et al. v. Dorman Products, Inc. et al*, 2:15-cv-129170-VAR-EAS (E.D. Mich.). Served as an expert for plaintiff in a case alleging copyright infringement and violation of the anti-circumvention provisions of the Digital Millennium Copyright Act relating to offloading of transmission control software from automobiles. Case has settled. Contact: [Aaron A. Barlow, Esq.](#), [Jenner & Block LLP](#), 353 North Clark Street, Chicago, IL 60654-3456.

257. *PPS Data, LLC v. Jack Henry & Associates, Inc.*, Case 2:18-cv-00007-JRG (E.D. Texas). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [7,181,430](#), [7,216,106](#), [7,440,924](#), [7,624,071](#) and [8,126,809](#), relating to methods for processing check images in electronic payment systems. The '430, '924, '071 and '809 patent were found invalid by the Court under 35 U.S.C. § 101. After a jury trial, all asserted claims of the '106

patent were found not infringed and invalid. Contact: [Anthony H. Son, Esq.](#), [Maddox Edwards, PLLC](#), 1900 K Street NW, Suite 725, Washington, DC 20006. (D,R,T)

258. *NEXT Payment Solutions, Inc. v. CLEAResult Consulting, Inc.*, Case 1:17-cv-08829 (N.D. Illinois). Served as an expert for defendant in a case alleging misappropriation of trade secrets relating to a system for managing energy rebate appointments and inspections. The trade secret counts were dismissed on summary judgment. Contact: [Anthony Fuga, Esq.](#), [Holland & Knight LLP](#), 131 S. Dearborn Street, 30th Floor, Chicago, IL 60603. (R)

259. *Certain Digital Video Receivers and Related Hardware and Software Components*, USITC Inv. No. 337-TA-1103. Served as an expert for Complainants Rovi Corporation et al. against Comcast Corporation et al. in an International Trade Commission proceeding involving alleged infringement of U.S. Patents [9,294,799](#), relating to resumption on a second device of video paused on a first device, and [9,578,363](#), relating to providing video in a format suitable for a particular device. Those patents were subsequently dropped. Dr. Shamos testified about his observation of user focus groups. The ITC issued an exclusion order, upheld by the Federal Circuit. Contact: [Richard A. Kamprath, Esq.](#), [McKool Smith](#), 300 Crescent Court, Suite 1500, Dallas, TX 75201. (D,R,T)

260. *ARM Ltd. et al. v. Complex Memory, LLC*, IPR2019-00053, IPR2019-00058, Patent Trial and Appeal Board. Served as an expert for petitioners in *inter partes* reviews of U.S. Patent [5,890,195](#), relating to cache memory (SRAM) integrated with main memory (DRAM) and U.S. Patent [6,658,576](#), relating to an energy-conserving computer operating system. Outcome: both IPRs terminated by settlement. Contact: [Kevin Anderson, Esq.](#), [Duane Morris LLP](#), 505 9th Street, NW, Suite 1000, Washington, DC 20004-2166. (R)

261. *Supercell Oy v. Gree, Inc.*, PGR2018-00070, PGR2018-00071, Patent Trial and Appeal Board. Served as an expert for patent owner in post-grant reviews of U.S. Patents [9,770,656](#) and [9,770,664](#), relating to user interfaces for multiplayer online games. Institution denied in both PGRs. Contact: [Scott McKeown, Esq.](#), [Ropes & Gray, L.L.P.](#), 2099 Pennsylvania Avenue, Washington, DC 20006-6807. (R)

262. *Amazon Services, LLC v. South Carolina Dept. of Revenue*, Docket No. 17-ALJ-0238-CC. Served as an expert for South Carolina in a tax dispute relating to online sales through Amazon's Merchant Fulfillment Network. Result: Amazon found liable to pay tax. Contact: [John Hoefer, Esq.](#), [Willoughby & Hoefer, P.A.](#), 940 Richland St., P.O. Box 8416, Columbia, SC 29202-8416. (D)

263. *Supercell Oy v. Gree, Inc.*, PGR2019-00018, Patent Trial and Appeal Board. Served as an expert for patent owner in a post-grant review of U.S. Patent [9,891,799](#), relating to a method for moving a plurality of objects in a computer game. All claims found unpatentable under 35 U.S.C. § 101. Affirmed by the Federal Circuit. Contact: [Scott McKeown, Esq.](#), [Ropes & Gray, L.L.P.](#), 2099 Pennsylvania Avenue, Washington, DC 20006-6807. (D,R)

264. *Beal v. Outfield Brew House, LLC.*, Case 2:18-cv-4028 (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the

Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. The District Court ruled for defendant on summary judgment based on statutory interpretation, now on appeal to the Eighth Circuit. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (D,R)

265. *Smartmatic USA Corporation v. Election Systems & Software, LLC*, IPR2019-00531, Patent Trial and Appeal Board. Served as an expert for patent owner in an inter partes review of U.S. Patent [8,096,471](#), relating to a ballot marking device having an attached ballot box and IPR2019-00527 of U.S. Patent [7,753,273](#). All '471 claims found patentable. Four '273 claims found patentable. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (D,R)

266. *Curling et al. v. Raffensperger et al.*, Case 1:17-CV-2989AT (N.D. Georgia). Served as an expert for defendants Secretary of State and State Election Board in a case in which plaintiffs seek an injunction of forbid use of DRE voting machines in Georgia in 2019. Preliminary injunction [denied](#) as to the November 2019 election. Contact: [Vincent Russo, Esq.](#), [Robbins Ross Alloy Belinfante Littlefield LLC](#), 500 14th Street N.W., Atlanta, GA 30318. (D,R)

267. *Smith v. Truman Road Development, LLC d/b/a No OtherPub*, Case 4:18-cv-670-NKL (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. The District Court ruled for defendant on summary judgment based on statutory interpretation. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (R)

268. *J. T. Hand et al. v. Beach Entertainment, LLC d/b/a Shark Bar*, Case 4:18-cv-668-NKL (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. Partial summary judgment was granted, now on appeal to the Eighth Circuit. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (R)

269. *WhereverTV, Inc. v. Comcast Corporation, et al.*, Case 2:18-cv-00529-UA-CM (M.D. Florida). Served as an expert for plaintiff in a case alleging infringement of U.S. Patent [8,656,431](#), relating to a system for integrating television and IPTV channels into a global interactive program guide. Contact: [Adam Sanderson, Esq.](#), [Reese Marketos LLP](#), 750 N. St. Paul St., Suite 600, Dallas, TX 75201. (R)

270. *Droplets, Inc. v. Nordstrom, Inc.*, Case 3:12-CV-04049-JST (N.D. Cal.). Serving as an expert for defendant in an action alleging infringement of U.S. Patent [8,402,115](#), relating to delivering interactive links for presenting applications on a client computer. Contact: [Benjamin](#)

[Kleinman, Esq., Kilpatrick Townsend & Stockton LLP](#), Two Embarcadero Center Suite 1900, San Francisco, CA 94111. (D,R)

271. *Droplets, Inc. v. Yahoo!, Inc.*, Case 3:12-CV-03733-JST (N.D. Cal.). Serving as an expert for defendant in an action alleging infringement of U.S. Patent [8,402,115](#), relating to delivering interactive links for presenting applications on a client computer. Contact: [Kevin P. Anderson, Esq., Duane Morris LLP](#), 505 9th Street, N.W., Suite 1000, Washington, DC 20004-2166. (D,R)

272. *Square, Inc. v. 4361423 Canada, Inc. d/b/a AnywhereCommerce*, IPR2019-01651, IPR2019-01652, IPR2019-01653, and IPR2019-001654, Patent Trial and Appeal Board. Served as an expert for petitioner in inter-partes reviews of U.S. Patents [9,443,239](#), [9,613,351](#), and [9,818,107](#), relating to an attachment to a cellphone to facilitate credit card transactions. Result: all challenged claims unpatentable in all four IPRs. Contact: [David Tennant, Esq., White & Case, L.L.P.](#), 701 Thirteenth Street, NW, Washington, DC 20005. (R)

273. *Uniloc 2017 LLC v. Netflix, Inc. et al.*, Lead Consolidated Case SACV8:18-cv-2055-GW-DFMx (C.D. Cal.). Served as an expert for plaintiff in a case alleging infringement of U.S. Patents [8,407,609](#), relating to tracking the amount of time a presentation is watched online, and [9,721,273](#), relating to aggregating and presenting audio and video over a network. Case has settled. Contact: [Sal Lim, Esq., Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (R)

274. *Comcast Cable Communications, LLC v. WhereverTV, Inc.*, IPR2019-01482, and IPR2019-001483, Patent Trial and Appeal Board. Served as an expert for Patent Owner in inter-partes reviews of U.S. Patent [8,656,431](#), relating to a system for integrating television and IPTV channels into a global interactive program guide. Institution denied in both cases. Contact: [Adam Sanderson, Esq., Reese Marketos LLP](#), 750 N. St. Paul St., Suite 600, Dallas, TX 75201. (R)

275. *Boom! Payments, Inc. v. Stripe, Inc. et al.*, Case 3:19-cv-0050-VC (N.D. Cal.). Served as an expert for Defendants Shopify, Inc. and Shopify (USA) Inc. in an action alleging infringement of U.S. Patents [8,429,084](#), and [9,235,857](#), relating to a system for confirming that a physical exchange of goods has occurred in an online transaction. All asserted claims found invalid under 35 U.S.C. § 101 upon Defendants' motion to dismiss. Contact: [Vincent M. Ferraro, Esq., Mintz, Levin, Cohn, Ferris, Glovsky and Popeo P.C.](#), Chrysler Center, 666 Third Avenue, New York, NY 10017.

276. *Curb Mobility, LLC v. Kaptyn, Inc. et al.*, Case 2:18-cv-02416-MMD-GWF (D. Nev.). Served as an expert for Defendants in an action alleging infringement of U.S. Patent [6,347,739](#), relating to a system for accepting credit cards in taxicabs. All asserted claims found invalid under 35 U.S.C. § 101. Contact: [Robert Yorio, Esq., Carr & Ferrell LLP](#), 120 Constitution Drive, Menlo Park, CA 94025. (R)

277. *Canon, Inc. v. TCL Electronics Holdings, Ltd., et al.*, Case 2:18-cv-00546-JRG (E.D. Texas). Served as an expert for Plaintiff in an action alleging infringement of U.S. Patent [7,810,130](#), relating to buffering video content, U.S. Patent [7,746,413](#), relating to interpreting

instructions from a television remote control, and U.S. Patents [8,078,767](#), [8,346,986](#) and [8,713,206](#), relating to controlling a digital display when an external device has been disconnected. Case has settled. Contact: [Kyotaro Ozawa, Esq.](#), [Paul Hastings LLC](#), Ark Hills Sengokuyama Mori Tower, Fortieth Floor 1-9-10 Roppongi, Minato-ku, Tokyo 106-0032 Japan. (D,R)

278. *Uniloc 2017 LLC v. Paychex, Inc.*, Case No. 1:19-cv-11272-RGS (D. Mass.), consolidated for certain purposes with *Uniloc 2017 LLC v. AthenaHealth Inc.*, Case No. 1:19-cv-11278-RGS (D. Mass.). Serving as an expert for plaintiff in actions alleging infringement of U.S. Patent [6,324,578](#), relating to management of configurable application programs on a network. Paychex case dismissed for lack of jurisdiction. AthenaHealth stayed pending appeal of a different case. Contact: [James J. Foster, Esq.](#), [Prince Lobel Tye LLP](#), One International Place, Suite 3700, Boston, MA 02110. (D,R)

279. *H2O Resources, LLC v. Oilfield Tracking Services, LLC*, AAA Case No. 01-18-0003 6309 (Houston, Texas). Served as an expert for defendants in an arbitration alleging misappropriation of trade secrets under 18 U.S.C. § 1836 and 12 P.S. § 5301 (Pennsylvania) relating to a system for tracking movement of produced water generated from oil and gas drilling. Matter has settled. Contact: [Paul Greco, Esq.](#), [Fisher Philips LLP](#), 150 N. Radnor Chester Road, Suite C300, Radnor, PA 19087. (D,R)

280. *J.T, Hand et al. v. ARB KC, LLC d/b/a Angels Rocks Bar*, Case 4:19-cv-108-BCW (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (R)

281. *Doohan et al. v. CTB Investors, LLC d/b/a PBR Big Sky Cowboy Bar et al.*, Case 4:19-cv-111-FJG (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (R)

282. *Taylor et al. v. KC Vin, LLC d/b/a/ Pizza Bar, et al.*, Case 4:19-cv-110-NKL (W.D. Missouri). Serving as an expert for plaintiff, representative of a putative class, in a case alleging violation of the Telephone Consumer Protection Act, 47 U.S.C. § 227, specifically on the issue whether certain dialing systems constitute an "Automatic Telephone Dialing System" under the statute. Contact: [Bill Kenney, Esq.](#), [Bill Kenney Law Firm, LLC.](#), 1100 Main St. Suite 1800, Kansas City, MO 64105. (R)

283. *The Thomas L. Pearson and The Pearson Family Members Foundation, et al. v. The University of Chicago*, Case 4:18-cv-00099-GKF-FHM (N.D. Oklahoma). Serving as an expert for plaintiffs in an action alleging breach of an agreement granting \$100 million to the

University of Chicago. Contact: [Isaac Ellis, Esq.](#), [Conner & Winters, LLP](#), 4000 One Williams Center, Tulsa, OK 74172-0148. (D,R)

284. *ESW Holdings, Inc. v. Roku, Inc.*, Case 6:19-cv-00044-ADA (W.D. Texas). Served as an expert for Plaintiff in an action alleging infringement of U.S. Patent [9,420,349](#), relating to monitoring a digital media stream and identifying media objects through fingerprinting. Jury verdict for defendant. Contact: [Conor Civins, Esq.](#), [Bracewell LLP](#), 111 Congress Avenue, Suite 2300, Austin, TX 78701-4061 (D,R,T)

285. *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Patent Trial and Appeal Board. Serving as an expert for Patent Owner in an inter-partes review of U.S. Patent [8,843,125](#), relating to a system and method for managing a mobile wallet through a Trusted Service Manager (TSM). Institution denied. Contact: [Marcus Barber, Esq.](#), [Kasowitz Benson Torres LLP](#), 333 Twin Dolphin Drive, Suite 200, Redwood Shores, CA 94065. (D, R)

286. *Election Systems & Software, LLC v. Hart InterCivic, Inc.*, PGR2020-00031, Patent Trial and Appeal Board. Served as an expert for petitioner in a post-grant review of U.S. Patent [10,445,966](#), relating to conversion of printed ballots into cast vote records by optical character recognition. Result: all challenged claims unpatentable. Federal Circuit appeal was dismissed by Patent Owner. Contact: [Robert M. Evans, Jr., Esq.](#), [Stinson LLP](#), 7700 Forsyth Blvd. Suite 1100, St. Louis, MO 63105. (D,R)

287. *Launius v. Flores, in her official capacity as Presiding Officer, Chair of Trustees, of Dallas County Community College District*, Cause DC-19-08429 (Dist. Ct., Dallas Cty., Texas). Served as an expert for contestee in an action alleging that an election held May 4, 2019 approving a \$1 billion bond issue should be overturned because "the true outcome of the election cannot be ascertained." After a bench trial, the Court granted judgment in favor of contestee. Contact: [Adam Rothey, Esq.](#), [Thompson & Horton LLP](#), 500 N. Akard St., Suite 3150, Dallas, TX 75201. (D,T)

288. *Slyce Acquisition, Inc. v. Syte - Visual Conception Ltd. et al.*, Case 6:19-cv-00257-ADA (W.D. Texas). Served as an expert for Plaintiff in an action alleging infringement of U.S. Patent [9,152,624](#), relating to navigating Web content via image analysis. Case has settled. Contact: [Michael Chibib, Esq.](#), [Bracewell LLP](#), 111 Congress Avenue, Suite 2300, Austin, TX 78701-4061 (R)

289. *Early Warning Services, LLC v. William Grecia*, IPR2020-00763, Patent Trial and Appeal Board. Served as an expert for petitioner in an inter partes review of U.S. Patent [8,887,308](#), relating to generation of tokens authenticating users seeking access to digital cloud content. Review was not instituted, but the patent was found invalid on § 101 grounds in litigation. Contact: [Cory Smith, Esq.](#), [Bryan Cave Leighton Paisner LLP](#), Two North Central Avenue, Suite 2100, Phoenix, AZ 85004-4406. (R)

290. *Supercell Oy v. Gree, Inc.*, PGR2020-00063, Patent Trial and Appeal Board. Served as an expert for patent owner in a post-grant review of U.S. Patent [10,406,432](#), relating to a method for providing information in a head-mounted display based on gaze sensing. Institution

denied. Contact: [Scott McKeown, Esq.](#), [Ropes & Gray, L.L.P.](#), 2099 Pennsylvania Avenue, Washington, DC 20006-6807. (R)

291. *Digital Retail Apps, Inc. v. H-E-B Grocery Company, LP*, Case 6:19-cv-00167-ADA (W.D. Texas). Served as an expert for defendant in an action alleging infringement of U.S. Patents [9,262,781](#), and [9,934,506](#), relating to use of QR codes in point-of-sale electronic payment applications. Case settled before trial. Contact: [Andrew Klein, Esq.](#), [Perkins Coie LLP](#), 3150 Porter Drive, Palo Alto, CA 94304-1212. (D,R)

292. *HLFIP Holding, Inc. d/b/a/ Smart Communications IP Holdings v. Rutherford County, Tennessee et al.*, Case 3:19-cv-00714 (M.D. Tenn.). Serving as an expert for intervenor VendEngine, Inc. in an action alleging infringement of U.S. Patent [10,291,167](#), relating to a computerized method of eliminating contraband in mail directed to correctional facilities. Contact: [W. Edward Ramage, Esq.](#), [Baker Donelson, Bearman, Caldwell & Berkowitz, P.C.](#), Monarch Plaza, Suite 1600, 3414 Peachtree Road N.E., Atlanta, GA 30326. (D,R)

293. *Broadband iTV, Inc. v. AT&T Services, Inc. et al.*, Case 1:20-cv-717-ADA (W.D. Texas). Served as an expert for Plaintiff in an action alleging infringement of U.S. Patents [9,648,388](#), [9,998,791](#), [10,349,101](#), [10,023,026](#) and [10,506,269](#), relating to hierarchical navigation of video-on-demand television menus. Case has settled. Contact: [Sal Lim, Esq.](#), [Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (D,R)

294. *Broadband iTV, Inc. v. DISH Network, L.L.C.*, Case 6:19-cv-716-ADA (W.D. Texas). Served as an expert for Plaintiff in an action alleging infringement of U.S. Patents [9,648,388](#), [9,998,791](#), [10,023,026](#) and [10,506,269](#), relating to hierarchical navigation of video-on-demand television menus. Case has settled. Contact: [Sal Lim, Esq.](#), [Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (D,R)

295. *Arendi S.A.R.L. v. Blackberry Limited et al.*, Case 1:12-cv-01595-LPS (D. Del.). Serving as an expert for Defendant in an action alleging infringement of U.S. Patents [7,917,843](#) and [8,306,993](#), relating to a touchscreen mechanism for providing name and address handling by an associated information system. Contact: [Jason W. Cook, Esq.](#), [McGuireWoods LLP](#), 2000 McKinney Ave., Suite 1400, Dallas, TX 75201. (D,R)

296. *Unified Patents, LLC v. Monarch Networking Solutions LLC*, IPR2020-00763, Patent Trial and Appeal Board. Serving as an expert for petitioner in an inter partes review of U.S. Patent [7,756,507](#), relating to out-of-band authentication to obtain access to a digital network. Review has been instituted. Contact: [John M. Baird, Esq.](#), [Duane Morris LLP](#), 505 9th Street, N.W., Suite 1000, Washington, DC 20004-2166. (R)

297. *Aqua Connect, Inc. et al. v. SHI International Corp. and TeamViewer GmbH*, Case 2:19-cv-05662-MRW (C.D. Cal.). Serving as an expert for Plaintiffs in an action alleging infringement of U.S. Patents [RE46,386](#) and [8,924,502](#), relating to updating a user session in a Mach-derived

system environment. Contact: [Ryan E. Hatch, Esq.](#), [Hatch Law, P.C.](#), 13323 Washington Blvd., Suite 100, Los Angeles, CA 90066. (R)

298. *PayPal, Inc. v. RetailMeNot, Inc.*, Case 6:20-cv-00339-ADA (W.D. Texas). Served as an expert for PayPal in an action alleging infringement by RetailMeNot of U.S. Patents [6,917,961](#) and [7,693,937](#), relating to evolving interactive browser dialog boxes, U.S. Patent [7,659,905](#), relating to pre-fetching data on a network, U.S. Patents [8,909,248](#) and [9,654,932](#), relating to provision of location-based services, and U.S. Patents [9,053,514](#) and [9,082,153](#), relating to automatic rebate and coupon redemption, and alleging in counterclaims infringement by PayPal of U.S. Patents [10,296,931](#), and [10,489,814](#), relating to accessing promotional offers displayed on websites by circumventing secure sandbox protections. Case has settled. Contact: [Steve Marshall, Esq.](#), [Fish & Richardson, P.C.](#), 1000 Maine Avenue, S.W., Suite 1000, Washington, DC 20024.

299. *Rovi Guides, Inc. et al. v. Comcast Corporation et al.*, Case No. 2:18-cv-00253-AG-FFM (C.D. Cal.). Served as an expert for plaintiffs in an action alleging infringement of U.S. Patents [7,827,585](#), relating to electronic TV program guides, [9,294,799](#), relating to an on-demand media delivery system, [9,369,741](#), relating to an interactive television reminder system, [9,578,363](#), relating to accessing video content via standard and high-definition channels, [9,621,956](#), relating to a television transport control interface, and [9,668,014](#), relating to methods for storing video assets. Case has settled. Contact: [Richard A. Kamprath, Esq.](#), [McKool Smith](#), 300 Crescent Court, Suite 1500, Dallas, TX 75201.

300. *RetailMeNot, Inc. v. Honey Science, LLC*, Case 1:18-cv-00937-CFC-MPT (D. Del.). Served as an expert for defendant in an action alleging infringement of U.S. Patents [9,626,688](#), [10,290,015](#), [10,296,931](#), and [10,489,814](#), relating to accessing promotional offers displayed on websites by circumventing secure sandbox protections. Case has settled. Contact: [Richard Birnholz, Esq.](#), [Irell & Manella LLP](#), 1800 Avenue of the Stars, Suite 900, Los Angeles, CA 90067-4276.

301. *Certain Video Processing Devices, Components Thereof, and Digital Smart Televisions Containing the Same*, USITC Inv. No. 337-TA-1222. Served as an expert for Complainant DivX, LLC against numerous smart television manufacturers in an International Trade Commission proceeding involving alleged infringement of, *inter alia*, U.S. Patent [8,832,297](#), relating to multiphase adaptive bitrate streaming. Case has settled. Contact: [Jessica Perry, Esq.](#), [Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.](#), One Financial Center, Boston, MA 02111.

302. *Google LLC v. Sonos, Inc.*, Case No. 3:20-cv-03845-EMC (N.D. Cal.). Serving as an expert for Google in an action alleging infringement of U.S. Patent [7,065,206](#), relating to echo and noise control, [7,899,187](#), relating to digital rights management, [8,583,489](#), relating to notification of availability of media content, [10,140,375](#), relating to personalized network searching, and [10,229,586](#), relating to communication via wireless sensor systems. Contact: [Patrick D. Curran Esq.](#), [Quinn Emanuel Urquhart & Sullivan LLP](#), 111 Huntington Avenue, Suite 520, Boston, MA 02199. (R)

303. *Hitel Technologies LLC v. Nike, Inc.*, Case 6:20-cv-00591-ADA (W.D. Texas). Served as an expert for Nike in an action alleging infringement of U.S. Patent [7,689,617](#), relating to adaptive learning during Web navigation. Case was dropped by plaintiff during claim construction. Contact: [Christopher Renk, Esq.](#), [Arnold & Porter Kaye Scholer LLP](#), 70 West Madison Street, Suite 4200, Chicago, IL 60602-4231.

304. *Hitel Technologies LLC v. Levi Strauss & Co.*, Case 6:20-cv-00589-ADA (W.D. Texas). Served as an expert for Levi Strauss in an action alleging infringement of U.S. Patent [7,689,617](#), relating to adaptive learning during Web navigation. Case was dropped by plaintiff during claim construction. Contact: [Robert A. McFarlane, Esq.](#), [Hanson Bridgett LLP](#), 425 Market Street, 26th Floor, San Francisco, CA 94105.

305. *Unified Patents, LLC v. Caselas, LLC*, IPR2021-00799, Patent Trial and Appeal Board. Serving as an expert for petitioner in an inter partes review of U.S. Patent [9,716,691](#), relating to providing information about charge-backs in credit reports. Review has been instituted. Contact: [Larissa Bifano, Esq.](#), [DLA Piper LLP](#), 33 Arch Street, 26th Floor, Boston, MA 02110-1447. (D,R)

306. *Fortinet, Inc. v. Forescout Technologies, Inc.*, Case 3:20-cv-03343-EMC-ADA (N.D. Cal.). Serving as an expert for plaintiff in an action alleging infringement of U.S. Patents [8,458,314](#), relating to administration of network security privileges, [9,369,299](#), relating to methods for controlling remote network access, [9,503,421](#), relating to security information and event management, [9,894,034](#), relating to configuration of network endpoint security, and [9,948,662](#), relating to application layer network security. Contact: [Rachel Blitzer, Esq.](#), [Skadden, Arps, Slate, Meagher & Flom LLP](#), One Manhattan West, New York, NY 10001. (R)

307. *Delaware North iGaming, Inc. v. Miomni Gaming Ltd. et al.*, C.A. 2019-0301-JTL (Del. Ch.). Serving as a court-appointed expert in a matter alleging breach of contract to provide software and computing services. Contact: [Vice-Chancellor J. Travis Laster](#), Court of Chancery, 500 North King Street, Wilmington, DE 19801.

308. *Zillow Group et al. v. International Business Machines Corp.*, IPR2020-01656, Patent Trial and Appeal Board. Serving as an expert for patent owner in an *inter partes* review of U.S. Patent [8,315,904](#), relating to a computerized method for managing promotions. Contact: [Gautam Patnaik, Esq.](#), [Desmaris, LLP](#), 1701 Pennsylvania Avenue NW, Suite 200, Washington, D.C. 20006. (D,R)

309. *ByteDance Ltd. and TikTok Inc. v. Triller, Inc.*, IPR2021-00099, Patent Trial and Appeal Board. Serving as an expert for patent owner in an *inter partes* review of U.S. Patent [9,691,429](#), relating to systems and methods for creating music videos synchronized with an audio track. Contact: [Brent Lorimer, Esq.](#), [Workman Nydegger](#), 60 East South Temple, Suite 1000, Salt Lake City, UT 84111. (D,R)

310. *Broadband iTV, Inc. v. Amazon.Com, Inc. et al.*, Case 6:20-cv-921-ADA (W.D. Texas). Serving as an expert for Plaintiff in an action alleging infringement of U.S. Patents [9,648,388](#), [9,973,826](#), [10,023,026](#), [10,506,269](#), [10,536,750](#) and [10,536,751](#), relating to hierarchical

navigation of video-on-demand television menus. Contact: [Sal Lim, Esq., Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (R)

311. *DISH Network, L.L.C, v. Broadband iTV, Inc.*, IPR2020-01267, Patent Trial and Appeal Board. Served as an expert for patent owner in in an *inter partes* review of U.S. Patent [10,023,026](#), relating to hierarchical navigation of video-on-demand television menus. Case has settled. Contact: [Sal Lim, Esq., Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (D,R)

312. *DISH Network, L.L.C, v. Broadband iTV, Inc.*, IPR2020-01280, Patent Trial and Appeal Board. Served as an expert for patent owner in in an *inter partes* review of U.S. Patent [9,998,791](#), relating to hierarchical navigation of video-on-demand television menus. Case has settled. Contact: [Sal Lim, Esq., Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (D,R)

313. *DISH Network, L.L.C, v. Broadband iTV, Inc.*, IPR2020-01359, Patent Trial and Appeal Board. Served as an expert for patent owner in in an *inter partes* review of U.S. Patent [9,648,388](#), relating to hierarchical navigation of video-on-demand television menus. Case has settled. Contact: [Sal Lim, Esq., Feinberg Day Kramer Alberti Lim Tonkovich & Belloli LLP](#), 1600 El Camino Real, Suite 280, Menlo Park, CA 94025. (D,R)

314. *Justservice.net, LLC. v. Dropbox, Inc.*, Case 6:20-cv-00070-ADA (W.D. Texas). Served as an expert for Defendants in an action alleging infringement of U.S. Patents [8,126,990](#), [8,195,776](#), [8,392,542](#), [9,772,993](#), [10,387,270](#) and [10,472,868](#), relating to network-based file backup systems. Case has settled. Contact: [Monica Grewal, Esq., Wilmer Cutler Pickering Hale and Dorr LLP](#), 60 State Street, Boston, MA 02109.

315. *Dropbox, Inc. v. Motion Offense, LLP*, Case 6:20-cv-00251-ADA (W.D. Texas). Serving as an expert for declaratory judgment plaintiff in an action relating to alleged infringement of U.S. Patents [10,013,158](#), [10,021,052](#), [10,303,353](#), [10,587,548](#), and [10,613,737](#), relating to file-sharing systems. Contact: [Monica Grewal, Esq., Wilmer Cutler Pickering Hale and Dorr LLP](#), 60 State Street, Boston, MA 02109.

316. *HealthPlanCRM, LLC d/b/a Cavulus v. AvMed, Inc. et al.*, Case 01-19-0002-2557 (American Arbitration Association). Serving as an expert for respondents in an arbitration alleging misappropriation of trade secrets concerning a customer relationship management (CRM) platform relating to Medicare Advantage Plans. Contact: [Chris Schwing, Esq., Holland & Knight LLP](#), 50 N. Laura Street, Suite 3900, Jacksonville, FL 32202. (R)

317. *Talavera et al. v. Global Payments, Inc. et al.*, Case 3:21-cv-1585-TWR-AGS (S.D. Cal.). Serving as an expert for defendants in an action alleging infringement of copyright in a computer program that operates storefronts for online purchase of school supplies. Contact: [Matthew D. Murphey, Esq., Murphey & Murphey](#), 120 Vantis Drive, Suite 300, Aliso Viejo, California 92656. (R)

318. *AlphaSense Oy et al. v. Sentieo, Inc.*, C.A. No. 21-1011-CFC/JLH-MPT (D. Del.). Serving as an expert for defendant in a case alleging infringement of U.S. Patent [11,023,675](#), relating to a user interface for a financial document search engine. Contact: [Jennifer Ying, Esq.](#), [Morris, Nichols, Arsht & Tunnell, LLP](#), 1201 North Market Street, 16th Floor, Wilmington, DE 19899-1347. (R)

319. *Triller, Inc. v. TikTok PTE, Ltd*, IPR2022-00179, IPR2021-00180, and IPR2021-00181, Patent Trial and Appeal Board. Serving as an expert for petitioner in an *inter partes* reviews of U.S. Patents [9,294,430](#), [9,648,132](#), and [9,992,232](#), relating to systems and methods for locating and downloading digital music to a wireless device. Contact: [Brent Lorimer, Esq.](#), [Workman Nydegger](#), 60 East South Temple, Suites 1000, Salt Lake City, UT 84111. (R)

320. *RFCyber Corp. v. Google LLC and Google Payment Corp.*, C.A. 2:20-cv-00274-JRG (E.D. Texas). Served as an expert for Google in an action alleging infringement of U.S. Patents [6,292,657](#), [8,118,218](#), [8,448,855](#), [9,187,7877](#), [9,240,009](#), and [10,600,046](#), relating to electronic commerce payment methods. Case has settled. Contact: [Heather Takahashi, Esq.](#), [Munger, Tolles & Olson LLP](#), 355 South Grand Avenue, Los Angeles, CA 90071.

321. *KioSoft Technologies, LLC et al. v. PayRange, Inc.*, PGR2021-00077, Patent Trial and Appeal Board. Serving as an expert for patent owner in a post-grant review of U.S. Patent [10,719,833](#), relating to methods for authorizing payments wirelessly at vending machines. Contact: [Matthew Argenti, Esq.](#), [Wilson Sonsini Goodrich & Rosati](#), 650 Page Mill Road, Palo Alto, CA 94304. (R)

322. *Fintiv, Inc. v. Apple, Inc.* C.A. 1:21-cv-00896-ADA (W.D. Texas). Serving as an expert for plaintiff in an action alleging infringement of U.S. Patents [8,843,125](#), relating to a system and method for managing a mobile wallet through a Trusted Service Manager (TSM). Contact: [Marcus Barber, Esq.](#), [Kasowitz Benson Torres LLP](#), 333 Twin Dolphin Drive, Suite 200, Redwood Shores, CA 94065. (D, R)

323. *NRT Technology Corp. et al. v. Everi Holdings Inc. et al.*, C.A. 1:19-cv-00804-MN (D. Del.). Serving as an expert for Plaintiffs in an action alleging misuse of U.S. Patent [6,081,792](#), relating to structuring ATM and POS transactions with respect to withdrawal limits. Contact: [Colby B. Springer, Esq.](#), [Polsinelli LLP](#) (formerly at Lewis Roca Rothgerber LLP), Three Embarcadero Center, Suite 1350, San Francisco, CA 94111. (D,R)

324. *KioSoft Technologies, LLC et al. v. PayRange, Inc.*, PGR2021-00093, Patent Trial and Appeal Board. Serving as an expert for patent owner in a post-grant review of U.S. Patent [10,891,614](#), relating to methods for authorizing payments wirelessly at vending machines. Contact: [Matthew Argenti, Esq.](#), [Wilson Sonsini Goodrich & Rosati](#), 650 Page Mill Road, Palo Alto, CA 94304. (R)

325. *OANDA Corporation v. GAIN Capital Holdings Inc. et al.*, C.A. 3:20-cv-05784-ZNQ-DEA (D. N.J.). Serving as an expert for Plaintiff in an action alleging infringement of U.S. Patents

[7,146,336](#) and [8,392,311](#), relating to systems and methods of online currency trading. Contact: [Drew Koning, Esq., Koning Zolar LLP](#) 169 Saxony Road, Suite 115, Encinitas, CA 92024-6780.

Legislative Testimony

Testimony before the Texas Legislature concerning electronic voting, Austin, Texas, 1987. Result: passage of the Texas Electronic Voting Law.

Invited [testimony](#) before the British House of Lords, Subcommittee B of the European Union Committee, April 20, 2000. Subject: European regulation of eCommerce.

[Testimony](#) before the Pennsylvania Legislature State Government Committee concerning electronic voting, Philadelphia, March 10, 2004.

[Testimony](#) before the United States Commission on Civil Rights concerning electronic voting, Washington, DC, April 9, 2004.

[Testimony](#) before the U.S. House of Representatives Committee on Science concerning voting system certification, Washington, DC, June 24, 2004.

[Testimony](#) before the U.S. House of Representatives Committee on House Administration concerning voting system security, Washington, DC, July 7, 2004.

[Testimony](#) before the U.S. House of Representatives Committee on Government Reform concerning electronic voting technology, Washington, DC, July 20, 2004.

Testimony on DREs and paper trails before the Virginia Legislature Study Commission on Voting System Certification and Security, Richmond, VA, August 16, 2004.

[Testimony](#) before the Election Assistance Commission, Technical Guidelines Development Committee, Subcommittee on Computer Security and Transparency, Gaithersburg, MD, Sept. 20, 2004.

[Testimony](#) before the House Ways and Means Committee of the Maryland General Assembly on voting machine paper trails, Annapolis, MD, December 7, 2004.

[Testimony](#) before the U.S. House of Representatives Committee on House Administration concerning paper trails, Washington, DC, September 28, 2006.

[Testimony](#) before the U.S. Election Assistance Commission concerning the Voting System Testing and Certification Program, Washington, DC, October 26, 2006.

Testimony before the Georgia State Board of Elections, Powder Springs, GA, December 21, 2007.

Testimony before the Maryland House of Delegates Ways and Means Committee, Annapolis, MD, January 18, 2007.

[Testimony](#) before the U.S. Senate Committee on Rules and Administration on the Ballot Integrity Act of 2007, Washington, DC, July 25, 2007.

Arbitration

Dr. Shamos has served as an arbitrator in computer-related disputes for the American Arbitration Association.

Electronic Voting

Dr. Shamos has served as an examiner of electronic voting systems and consultant on electronic voting.

Member, Sarasota Source Code Audit Task Force, Florida Secretary of State (2007-2008)

Consultant to the [Pennsylvania Secretary of the Commonwealth](#) (2004-).

Consultant to the [Massachusetts Secretary of the Commonwealth](#) (2006).

Project SERVE Security Peer Review Group (2003).

Attorney General's Designee for electronic voting examinations, State of Texas (1987-2000).

Statutory Examiner for electronic voting, Commonwealth of Pennsylvania (1980-1996).

Consultant to Montgomery County, Pennsylvania (1996).

Consultant to the Secretary of State of Nevada (1996).

Consultant to the Delaware Legislature (1989).

Consultant to the [Secretary of State of West Virginia](#) (1984).

Business Experience

President, [Expert Engagements LLC](#), expert witness firm (2003-present).

President, Unus, Inc., database publishing software (formerly Unilogic, Ltd.) (1990-1992)

President, Notifax Corporation (1989-1994). Automated notification by facsimile.

President, Lexeme Corporation (1984-87), software language translation products.

Managing Partner, Shamos and Tchen (1978-82), computer consulting firm.

Supervisory Programmer, [National Cancer Institute](#) (1970-72), while a commissioned officer in the [United States Public Health Service](#) (O-3).

Associate Engineer, [IBM Corporation](#) (1968-70) (Components Division), design of manufacturing information systems.

Consulting

[Morgan Stanley Dean Witter](#) (2000-2002) (now Morgan Stanley).

[McKinsey & Co.](#) (1999-2001).

[Bell Atlantic Corporation](#) (1999-2008) (now Verizon).

[LG-CNS](#), South Korea (2002-2004). Project to automate the Korean court system.

Directorships

Unilogic, Ltd. (1979–87) (later Unus, Inc. d/b/a Cygnet Publishing Technologies, 1987-2013). Database publishing software.

The Billiard Archive (1983–). Historical nonprofit foundation.

Lexeme Corporation (1984-1987). Computer source language translation.

Notifax Corporation (1989-1994)

Insurance Technology Corporation (1992–1995). IT consulting for the insurance industry.

Personal Data

Date of birth: April 21, 1947.

Married to Julie Shamos (formerly Julie Van Allen), August 12, 1973.

Children: Josselyn (born May 20, 1982), Alexander (born August 3, 1984).

Grandchildren: Harlow Elizabeth Crane (born April 9, 2010), Bishop Moses Crane (born July 13, 2012), Amelia Eleanor Shamos (born April 17, 2019), Sophia Anastasia Shamos (born March 14, 2021)

Military Status: Veteran (Commissioned Officer, [U.S. Public Health Service](#), 1970-72).

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Email: shamos@cs.cmu.edu

Publications

Google Scholar [citations](#). Erdős number = 3: Erdős -> {Daniel Kleitman, Patrick O'Neill, Joel Spencer} -> Albert Meyer -> Shamos

SCIENCE

Books

1. [Computational Geometry: An Introduction](#), with [F. P. Preparata](#). Springer-Verlag (1985, revised ed., 1991), 390 pp. ISBN 0387961313. According to [CiteSeer](#) in 2012, this is the 93rd most cited work in the field of computer science.
2. [Вычислительная геометрия: введение](#). Russian translation of "Computational Geometry: An Introduction." Moscow: Mir Publishers (1989). ISBN 5030010416.
3. [Keisan kikagaku nyumon](#). Japanese translated by T. Asano and T. Asano of *Computational Geometry: An Introduction*, with F. P. Preparata. Soken Shuppan (Jul. 1992). ISBN 4795263213.
4. [Handbook of Academic Titles](#). 193 pp. (Jan. 2011). An encyclopedia of various academic designations used at over 1000 colleges and universities in the United States.
5. [Geometria obliczeniowa. Wprowadzenie](#). Polish translation of "Computational Geometry: An Introduction." Warsaw: Helion (2003) 392 pp. ISBN 83-7361-098-7.

6. [*Shamos's Catalog of the Real Numbers*](#). A list, patterned after Sloane & Plouffe, [*The Encyclopedia of Integer Sequences*](#), Academic Press (1995). Over 10,000 interesting real numbers arranged in lexical order by decimal expansion, with accompanying formulas.

Book Chapters

1. "[Privacy and Public Records](#)." Chapter 16 in [*Personal Information Management*](#), Jones & Teevan, eds., Univ. of Washington Press (2007), ISBN 978-0-295-98737-8.

Articles

1. "[On the Piezoelectric Effect in Bone](#)," with M. H. Shamos and L. S. Lavine. *Nature* **197**:81 (1963).
2. "[An Absorber Theory of Acoustical Radiation](#)," with M. A. Tavel. *Journal of the Acoustical Society of America* **54**:46–49 (1973).
3. "Problems in Computational Geometry." Unpublished book manuscript (1974, revised 1977). Distributed in photocopy.
4. "[Geometric Complexity](#)." *Proceedings of the Seventh Annual ACM Symposium on Automata and Theory of Computation* (May 1975) 224–233.
5. "[Closest-point Problems](#)," with D. J. Hoey. *Proceedings of the Sixteenth IEEE Symposium on Foundations of Computer Science* (Oct. 1975) 151–162.
6. "[Divide and Conquer in Multidimensional Space](#)," with J. L. Bentley. *Proceedings of the Eighth Annual ACM Symposium on Automata and Theory of Computing* (May 1976) 220–230.
7. "[Geometric Intersection Problems](#)," with D. J. Hoey. *Proceedings of the Seventeenth Annual IEEE Symposium on Foundations of Computer Science* (Oct. 1976) 208–215.
8. "[Lower Bounds from Complex Function Theory](#)," with G. Yuval. *Proceedings of the Seventeenth Annual IEEE Symposium on Foundations of Computer Science* (Oct. 1976) 268–273.
9. "[Geometry and Statistics: Problems at the Interface](#)." In *Algorithms and Complexity: New Directions and Recent Results*, J. F. Traub, ed., Academic Press (1976) 251–280.
10. "[Divide and Conquer for Linear Expected Time](#)," with J. L. Bentley. *Information Processing Letters* **7** (1977) 87–91.
11. "[A Problem in Multivariate Statistics: Algorithm, Data Structure, and Applications](#)," with J. L. Bentley. *Proceedings of the Fifteenth Allerton Conference on Communications, Control and Computers* (Sep. 1977) 193–201.

12. "[Optimal Algorithms for Structuring Geographic Data](#)," with J. L. Bentley. *Proceedings of the Harvard Conference on Topological Data Structures for Geographic Information Systems* (Oct. 1977) 43–51.
13. "[Computational Geometry](#)." Ph.D. Thesis, Yale University (1978). [University Microfilms](#), Ann Arbor, MI.
14. "[Time and Space](#)," with A. R. Meyer. In *Perspectives on Computer Science*, A. K. Jones, ed. Academic Press (1978).
15. *Combinatorics on Graphs I: Graph Polynomials*. Unpublished book manuscript (1978).
16. "[Robust Picture Processing Operators and Their Implementation as Circuits](#)." *Proceedings of the Fall 1978 Workshop on Image Processing*, Carnegie Mellon University (1978).
17. "A practical system for source language translation," with T. R. Kueny and P. L. Lehman. *Proceedings of the National Conf. on Software Reuseability and Maintainability*, pp. B-1 – B-12, Washington, DC (Sep. 1986).
18. "[The Early Years of Computational Geometry – A Personal Memoir](#)." *Advances in Discrete and Computational Geometry* (B. Chazelle, J. E. Goodman, and R. Pollack, eds.), *Contemporary Mathematics*, Amer. Math. Soc., Providence (1998).
19. "[A Multiparty Computation for Randomly Ordering Players and Making Random Selections](#)," with Latanya Sweeney. Carnegie Mellon University School of Computer Science Technical Report CMU-ISRI-04-126 (July 2004)
20. [Overcounting Functions](#). A systematic method of transforming certain multiple summations into single summations, with new number-theoretic results.
21. [Property Enumerators and a Partial Sum Theorem](#). A new result allowing rapid symbolic evaluation of certain types of double summations.

DIGITAL LIBRARIES

Articles

1. "[Machines as readers: a solution to the copyright problem](#)." *J. Zhejiang Univ. Science* 6A, 11, pp. 1179-1187 (Nov. 2005).

Book Chapters

1. "[The Universal Digital Library: Intelligent Agents and Information on Demand](#)," with Raj Reddy. Chapter 6 in [Emerging Communication Technologies and the Society](#), by N. Balakrishnan, Indian National Science Academy (2000). ISBN 81-7319-341-X.

Reports

1. "Japanese Digital Information Policy, Intellectual Property and Economics," in "[Digital Information Organization in Japan](#)," International Technology Research Institute (1999).

ELECTRONIC VOTING

Books

1. "[Glossary of Electronic Voting](#)."

Articles

2. "Voting System Certification — An Examiner's View." Invited paper presented at the Election Center Conference, Reno, Nevada (Sep. 1989).
3. "[Electronic Voting — Evaluating the Threat](#)." Proc. Third ACM Conf. on Computers, Freedom & Privacy, San Francisco, CA (Mar. 1993).
4. "[Paper v. Electronic Voting Records — An Assessment](#)." Proc. 14th ACM Conf. on Computers, Freedom & Privacy, Berkeley, CA (Apr. 2004).
5. "[Evaluation of Voting Systems](#)," with P.L. Vora, B. Adida, R. Bucholz, D. Chaum, D. Dill, D. Jefferson, D. Jones, W. Lattin, A. Rubin and M. Young, Commun. ACM 47(11):144 (2004).
6. "[Voting as an Engineering Problem](#)." *The Bridge* (publication of the National Academy of Engineering), Summer 2007, pp. 35-39.
7. "[Realities of E-Voting Security](#)," with A. Yasinsac. IEEE Security and Privacy 10:5 (Sep/Oct 2012), pp. 16-17. Also guest editor of that issue, devoted to E-voting Security.
8. "[Why our voting systems are safe](#)." Op-ed in the Pittsburgh Post-Gazette, Dec. 31, 2016.

Published Reports

9. "[Software and Security Analysis of the ES&S iVotronic 8.0.1.2 Voting Machine Firmware](#)," with Yasinsac et al., February 23, 2007. Review commissioned by the Secretary of State of Florida to investigate irregularities in the Florida Congressional District 13 election of 2006.

BILLIARDS

Books

1. [Pool](#). New York: Mallard Press division of Bantam-Doubleday-Dell Promotional Book Company (Aug. 1991). 128 pp. ISBN 0-7924-5310-7.

2. [*Le billard et le billard américain*](#). Paris: Minerva, 1992, reprinted 1997. 128 pp. Translation by Jean-Yves Prate of the author's American book, *Pool*. ISBN 2-8307-0160-7 (1992), 2-8814-3135-6 (1997).
3. [*The Illustrated Encyclopedia of Billiards*](#). New York: Lyons & Burford (1993). 310 pp. ISBN 1-55821-219-1.
4. [*Pool Snooker Carambola*](#). Padua: Facto Edizioni (1993). 128 pp. Italian translation of *Pool*. Translated by Elisabetta Bezzon. ISBN 88-85860-20-6. The first English-language billiard book ever published in Italian.
5. [*Pool*](#). New York: Friedman/Fairfax (Jun. 1994). 128 pp. ISBN 1-56799-061-4. Paperback edition of the author's 1991 [*Pool*](#).
6. [*Shooting Pool: The People, the Passion, the Pulse of the Game*](#), with photographs by George Bennett. New York: [Artisan](#) (Jun. 1998). 144 pp. ISBN 1-885183-95-X. A photographic survey of pool in the U.S. in 1997. A Book-of-the-Month Club bonus selection (Fall, 1998).
7. *Setting the Stage for Fifty Years*. Coralville, IA: [Billiard Congress of America](#) (Jun. 1998). 88 pp. A history of the Billiard Congress of America.
8. [*The New Illustrated Encyclopedia of Billiards*](#). New York: [Lyons Press](#) (1999). 320 pp. ISBN 1-55821-797-5. An expanded and revised edition of [*The Illustrated Encyclopedia of Billiards*](#).
9. [*The Complete Book of Billiards*](#). New York: [Gramercy Books](#) (2000). 306 pp. ISBN 0-517-20869-5. Reissue of author's 1993 [*The Illustrated Encyclopedia of Billiards*](#).

In Preparation

SCIENCE

Articles

1. [*A Graph-Theoretic Model of Electronic Payment Systems*](#), with Michael Trick.

LAW

Books

1. [*A Dictionary of American Intellectual Property*](#) (1995).

Invited Talks

ELECTRONIC COMMERCE

"[The Future of eCommerce](#)." Presentation to the Association for Corporate Growth, Pittsburgh, PA (Dec. 2001).

"[The U.S., Korea and the Internet Bubble](#)." Korea International Trade Association (Seoul, July 2003).

"[Electronic Judiciary Services in the United States](#)." Address at the Supreme Court of Korea (Dec. 2004).

"[eGovernment in the United States](#)." Public address at the University of Hong Kong (Feb. 2005).

"Global SCM as a Cross-Border eCommerce Model," Korea International Trade Association, Seoul, Korea (Mar. 2007).

"Innovate or Die." Invited talk at the Verizon Leadership Meeting, Morristown, NJ (Jun. 2007).

"A Formula for Innovation." Public address at the University of Hong Kong (Feb. 2008).

"Ask My Robot: How Computers Answer Questions." University of Hong Kong (Feb. 2013).

"How Bitcoin Works: A Non-Technical Introduction." University of Hong Kong (Mar. 2014).

"What's a Bitcoin? A Non-Technical Introduction." Carnegie Mellon University (Oct. 2014).

COMPUTER SCIENCE

"Surprises in Experimental Mathematics." Carnegie Mellon University Mathematics Seminar (Feb. 2002).

"Learning by Doing or Learning by Listening?" University of Hong Kong (Feb. 2007).

"Discoveries in Experimental Mathematics." University of Hong Kong (Feb. 2009).

"How Did It (Computational Geometry) Start?" Keynote address at the 20th Canadian Conference on Computational Geometry, Montreal, Canada (Aug. 2008).

"[The Internet of Everything](#)." University of Hong Kong (Mar. 2015).

"[How Do Driverless Cars Work?](#)" University of Hong Kong (Mar. 2017).

"[How Machines Learn \(Without Being Taught\)](#)." University of Hong Kong (Feb. 2018).

"[What is Quantum Computing All About?](#)" University of Hong Kong (Feb. 2019).

SCIENCE AND LAW

"Digital Property in the 21st Century." Keynote address for the Spring Meeting of the American Intellectual Property Law Association, Pittsburgh, PA (May 2000). View [slides](#).

"Who Owns This Algorithm?" Carnegie Mellon University (Nov 1991); Microelectronics and Computer Corporation (Jan. 1992); Univ, of Texas at Austin (Jan. 1992); UCLA (Feb. 1992).

"New Computer Technology and Its Application to Worker's Compensation." Forum IV, Newport Beach, CA (Feb. 1992).

"The Office of the Future, If There Is One." 1994 IAIABC Conf., Pittsburgh, PA (Sep. 1994).

"The Fringes of Infringement." University of Texas, Austin, TX (Sep. 1995).

"The Arts and the Internet." Allegheny County Bar Association Continuing Legal Education course (June 26, 1996).

"The Universal Information Resource." Inventing the Future, Symposium in Honor of Raj Reddy's 60th Birthday, Carnegie Mellon University, Pittsburgh, PA (May 1998).

"The Universal Library." University of Texas at Austin (Sep. 1998)

"The Universal Library and Its Role in Scientific Information." Keynote address to the RNA Society symposium on Emerging Sources of RNA Information, Arlington, VA (Dec. 8, 1998).

"Digital Property in the 21st Century." Luncheon address to the American Intellectual Property Law Association, Pittsburgh, PA (May. 2000).

"Copyright Protection and Distance Learning." Hong Kong Intellectual Property Office (Feb. 2002).

"The Universal Dictionary." Address at International Institute of Information Technologies (IIIT), Hyderabad, India (Jan. 2003).

"The Million Book Projects." Public address at the University of Hong Kong (Jan. 2003).

"Mathematics and the Privacy Laws." ALADDIN Workshop on Privacy in D.A.T.A., Pittsburgh, PA (Mar. 2003).

"Machines as readers: a solution to the copyright problem." 1st Int'l Conf. on Universal Digital Library, Hangzhou, China (Nov. 2005).

"Your Books Might Cost More Now: The Role of the Expert in Software Patent Litigation." University of Hong Kong (Feb. 2006).

"University Technology Transfer: How to Fix It." Asia Conference on Technology Transfer (ACTT) 2006, Seoul, S. Korea (Mar. 2006).

"How Big a Problem is Copyright"? USAIN Conference, Cornell University, Ithaca, NY (Oct. 2006).

"Digital Ownership." 2d Intl. Conf. on Universal Digital Library, Alexandria, Egypt (Nov. 2006).

"Google and the Death of Books." University of Hong Kong (Feb. 2010).

"FaceWars." (About the lawsuit between Facebook and the Winkelvoss twins). University of Hong Kong (Feb. 2011).

"Swiping the iPhone: Billions Lost With the Stroke of a Pen." University of Hong Kong (Feb. 2012).

["Global Phone Wars: Apple v. Samsung."](#) University of Hong Kong (Mar. 2016).

ELECTRONIC VOTING

"Voting System Certification — An Examiner's View." Election Center Conference, Reno, Nevada (Sep. 1989).

"Electronic Voting — Evaluating the Threat." Third Conf. on Computers, Freedom and Privacy, San Francisco, CA (Mar. 1993).

"What's Happening in Florida?" Carnegie Mellon University (Nov. 2001).

"Electronic Voting: The Technology of Democracy." Hong Kong University (Feb. 2004).

"Theory v. Practice in Electronic Voting." DIMACS (Rutgers Univ., May 2004).

"HAVA: Are We Ready?" Panel at the League of Women Voters National Convention, Washington, DC (Jun. 2004).

"Testing Voting Machines." Panel at the American Enterprise Institute, Washington, DC (Jun. 2004).

"Electronic Voting: Promise and Peril." Talk at the Moritz College of Law, Ohio State University (Sep. 2004).

"Is e-voting ready for prime time: Legal and technical issues regarding the upcoming Presidential election." Panel at John Marshall Law School (Chicago, IL, Oct. 2004).

"Is Electronic Voting Reliable?" Talk to the Kiwanis Club of Dubuque, Iowa (Feb. 2005).

"The Top Ten Problems in Practical Electronic Voting." Int'l Workshop on Mathematics and Democracy, Ettore Majorana Centre, Erice, Sicily (Sept. 2005).

"Why Don't We Have Paper Trails in Pennsylvania?" Carnegie Mellon Univ. CyLab Seminar, Pittsburgh, PA (Jan 2006).

"Paper Trails and the Pennsylvania Certification Process." County Commissioners Association of Pennsylvania 2006 Spring Conference, Harrisburg, PA (Mar. 2006).

"The 2006 Elections: Are We Ready?" Panel at the American Enterprise Institute, Washington, DC (Sept. 2006).

"What's Right with Electronic Voting?" University Lecture Series, Carnegie Mellon University (Oct. 12, 2006).

"What Happened in Yesterday's Election?" Center for Research on Computation and Society, Harvard University (Nov. 8, 2006).

"What Happened in Sarasota County"? Council on Government Ethics Laws, New Orleans, LA (Dec. 6, 2006).

"What Happened to 18,000 Votes? Results of the Sarasota Source Code Audit." Carnegie Mellon University (Apr. 16, 2007).

"Opscan Voting: The Good, the Bad and the Ugly." Florida State Association of Supervisors of Elections, Destin, Florida (May 24, 2007).

"Voting Machine Fraud." University of Pittsburgh (Nov. 11, 2008)

EXHIBIT B

MATERIALS CONSIDERED

All materials referenced in the Zatkovich Report, and the following:

Documents

IngenicoInc_0303830

Depositions

Lo, Ben (Dec. 8, 2021), and exhibits thereto

Lo, Ben (Dec. 10, 2021), and exhibits thereto

Patents and Patent Applications

JPH0630153A (Yasuo et al.)

US 5822598 (Lam)

US 6703822 (Wenger)

US 6809572 (Yi et al.)

US 7452878 (Nanikashvili)

US 7857225 (Challa et al.)

US 2003/0045235 (Mooney et al.)

US 2004/0081099 (Patterson et al.)

US 2006/022910 (Cehelnik)

US 2008/0004894 (Son et al.)

US 2009/0307511 (Fiennes et al.)

US 2010/0184479 (Griffin, Jr.)

US 2011/0167287 (Walsh et al.)

US 2012/0008851 (Pennock et al.)

US 2012/0011071 (Pennock et al.)

US 2012/0052910 (Mu et al.)

US 2012/0061462 (Shadwell Jr. et al.)

US 2012/0100887 (Tekin et al.)

US 2012/0134503 (Poulsen et al.)

US 2012/0293001 (Chan et al.)

WO 2011/047042 (Dorsey)

Publications

“Autonomous Audio Headset Switch TS3A225E,” available at

<https://www.ti.com/lit/ds/symlink/ts3a225e.pdf?ts=1646917471403>

“Bank of America Merchant Services MultiLink® Message Specification Authorization Formats for Debit, Credit, EBT, Check Acceptance and POS Check Version 4.02,” available at

[https://www.wmata.com/business/procurement/solicitations/documents/fQ11161-AM-02Attachment-Multilink_Message_Specification_v4%2002%20\(4\).pdf](https://www.wmata.com/business/procurement/solicitations/documents/fQ11161-AM-02Attachment-Multilink_Message_Specification_v4%2002%20(4).pdf)

“EMV Integrated Circuit Card Specifications for Payment Systems Book 1,” available at

<https://www.emvco.com/terms-of-use/?u=wp->

content/uploads/documents/EMV_v4.3_Book_1_ICC_to_Terminal_Interface_2012060705394541.pdf

“NuMicro™ Family NUC120 Data Sheet,” available at

<https://media.digikey.com/pdf/Data%20Sheets/Nuvoton%20PDFs/NUC120.pdf>

“OMTP Local Connectivity: Wired Analogue Audio” (2007), available at

http://www.omtp.org/OMTP_Local_Connectivity_Wired_Analogue_Audio_v1_0.pdf

“Security Analysis of Smartphone Point-of-Sale Systems,” by Frisby et al., Usenix 2012,

available at <https://www.usenix.org/system/files/conference/woot12/woot12-final25.pdf>

“Specification of the Bluetooth System,” available at

https://grouper.ieee.org/groups/802/15/Bluetooth/core_10_b.pdf

“User Manual MS246 Magnetic Stripe Reader,” available at

https://images10.newegg.com/UploadFilesForNewegg/itemintelligence/UNITECH/MS246_Manual1411792183052.pdf